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1989 North Dakota Vital Statistics Report

North Dakota State Department of Health and Consolidated Laboratories

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Introduction

The 1989 edition of the North Dakota Vital Statistics Report is a statistical summary of births, deaths, fetal deaths, marriages, divorces and annulments, and induced terminations of pregnancy. The summary's major purpose is to present information which can be utilized as a basis for health policy and planning decisions and as a primer for epidemiologic investigation.

Although a majority of the information contained in this report pertain to events occurring in 1989, some data for prior years has been included to illustrate trends.

Data for this summary are gleaned from the certificates of live birth, death, fetal death, induced termination of pregnancy, marriage and divorce, and annulment.

Any comments or suggestions concerning the content or format for this report are welcome, and any subsequent data needs should be directed to the North Dakota State Department of Health and Consolidated Laboratories, Administrative Services Section, Second Floor, Judicial Wing, State Capitol, 600 East Boulevard Avenue, Bismarck, North Dakota 58505-0200, (701) 224-2392.

Definitions, Rates, and Ratios

Definitions

BIRTH WEIGHT - Weight of infant or fetus at time of delivery (normally recorded in pounds and ounces and/or grams).

FETAL DEATH - Death prior to the complete expulsion or extraction from its mother of a product of conception, having passed through at least the 20th week of gestation; the fetus shows no signs of life such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

GESTATIONAL PERIOD - Number of weeks elapsed between the first day of the last menstrual period and date of delivery.

HEBDOMADAL DEATH - Death occurring to an individual less than seven days of age.

INDUCED TERMINATION OF PREGNANCY - The termination of human pregnancy with an intention other than to produce a live birth or to remove a dead embryo or fetus.

INFANT DEATH - Death occurring to an individual less than one year of age.

LEADING CAUSES OF DEATH - Deaths are grouped into categories dependent upon the underlying cause of death. Ranks are assigned by organizing these categories according to the number of deaths in each category from most frequent to least.

LIVE BIRTH - The complete expulsion or extraction from its mother of a product of conception, irrespective of the duration of pregnancy, which, after such separation, breathes or shows any other evidence of life, such as beating of the heart, pulsation of the umbilical cord, or definite movement of voluntary muscles.

LOW WEIGHT BIRTH - Birth wherein the birth weight is equivalent to 2,500 grams or less (approximately 5 lbs., 8 oz.).

MATERNAL DEATHS - Those deaths wherein the physician has designated a maternal condition as the underlying cause of death.

MEAN - The average of a set of values, equal to the sum of the values divided by the number of values.

MEDIAN - The central value of a distribution of values wherein the same percentage of observations are above this point as are below.

NEONATAL DEATH - Death occurring to individuals less than 28 days of age.

OCCURRENCE - Place where the event actually occurred.

OUT-OF-WEDLOCK BIRTH - Birth occurring to a mother who is not married at the time of conception, at the time of birth, or at any time between conception and birth.

PERINATAL DEATH - Fetal death and deaths less than 28 days of age.

PERINATE - Fetus or newborn during the perinatal period (from the end of the 20th week of gestation to the 28th day after birth).

PRENATAL CARE INDEX - Classification of the adequacy of prenatal care, based on the number of prenatal visits, duration of pregnancy, and the timing of the first visit.

RACE - Race for mother, father, or decedent is as stated on particular certificate. Race of child is determined from the race of the parents.

RESIDENCE - Usual place of residence for person to whom event occurred. For births and fetal deaths residence is defined as the mother's usual place of residence.

TOTAL BIRTHS - Live births and fetal deaths.

UNDERLYING CAUSE OF DEATH - That condition giving rise to the chain of events leading to death.

Rates and Ratios

CAUSE-SPECIFIC DEATH RATE - Number of deaths due to a specific cause divided by the total resident population X 100,000.

CRUDE BIRTH RATE - Number of resident live births divided by the total resident population X 1,000.

CRUDE DEATH RATE - Number of resident deaths divided by the total resident population X 1,000.

DIVORCE RATE - Number of divorces and annulments divided by the total resident population X 1,000.

FETAL DEATH RATE - Number of resident fetal deaths divided by the total resident live births and resident fetal deaths X 1,000.

FETAL DEATH RATIO - Number of resident fetal deaths divided by the total resident live births X 1,000.

INFANT MORTALITY RATE - Number of infant deaths divided by the total resident live births X 1,000.

LOW WEIGHT BIRTH RATIO - Number of low weight births divided by the total resident live births X 1,000.

MARRIAGE RATE - Number of marriages divided by the total resident population X 1,000.

MATERNAL DEATH RATE - Number of maternal deaths divided by the total resident live births X 10,000

NEONATAL DEATH RATE - Number of neonatal deaths divided by the total resident live births X 1,000.

NO PRENATAL CARE RATIO - Number of live births to mothers with no prenatal care divided by the total resident live births X 1,000.

OUT-OF-WEDLOCK RATIO - Number of resident out-of-wedlock live births divided by total resident live births X 1,000.

PERINATAL DEATH RATE - Number of perinatal deaths divided by the total resident live births and the total resident fetal deaths X 1,000.

Reliability of Rates

Precautions should be taken in drawing specific inferences from comparisons of rates for different geographic areas or different periods of time. Rates based on a small number of events or for a small geographic area tend to exhibit considerable variation from time period to time period or place to place. Excessive variation in rates not only negates their utility as estimators of the probability of an event occurring, but also their usefulness for comparative purposes.

In addition, the reader should recognize the limitations of using unadjusted rates in attempting to attribute rate differences to particular factors. For example, the reader should not attempt to state that there was a significant difference in rates for two geographic areas for diseases of the heart without first adjusting the rates to negate the effects of differing age distributions in the two areas. Many times there are simply not sufficient data available to adequately adjust rates for all possible compounding factors. For this reason, the reader should exercise diligence and caution while attempting to draw substantive conclusions when comparing vital statistics rates.

The North Dakota rates were calculated using the July 1, 1989, population estimate of 660,000.

Qualifications and Limitations of Data and Calculations

COMPARABILITY IN CAUSE-OF-DEATH STATISTICS

The reader must bear in mind two major limitations in interpreting changes in cause-of-death statistics. Changes in nomenclature and the classification scheme (The International Classification of Diseases) and changes in diagnostic practices may seriously affect the comparability of such statistics over time. The International Classification of Diseases is modified approximately once every ten years to reflect changing medical opinion and practice. More accuracy may be obtained when comparing cause-of-death certificates which are coded via one revision of the International Classification of Diseases and utilizing the coding practices and procedures in effect at that time.

In order to compare cause-of-death statistics from one revision to the next it is necessary to apply a ratio of comparability. Such ratios are developed by comparing the number of deaths assigned to a certain condition or group of conditions under one revision to the number assigned under another revision of the International Classification of Diseases.

NATALITY

Natality:
An Overview 1989

Total Resident Live Births	9,566
Crude Birth Rate	14.5
Median Live Birth Weight (Grams)	3,461
Low Weight Live Births	481
Low Weight Birth Ratio	50.3

Live Births

Between 1960 and 1989 the number of North Dakota resident live births varied considerably (Figure 1.1 and Table 1.1). The smallest number of resident live births recorded since 1960 was 9,566 in 1989, while the largest number occurred in 1960, a year in which 16,690 resident live births were reported. During the same time period crude birth rates also varied considerably (Figure 1.2 and Table 1.1). The largest crude birth rate was experienced in 1960 (26.4), while the smallest corresponding rate was reported in 1989 (14.5).

Figure 1.1
Resident Live Births
North Dakota, 1960-1989

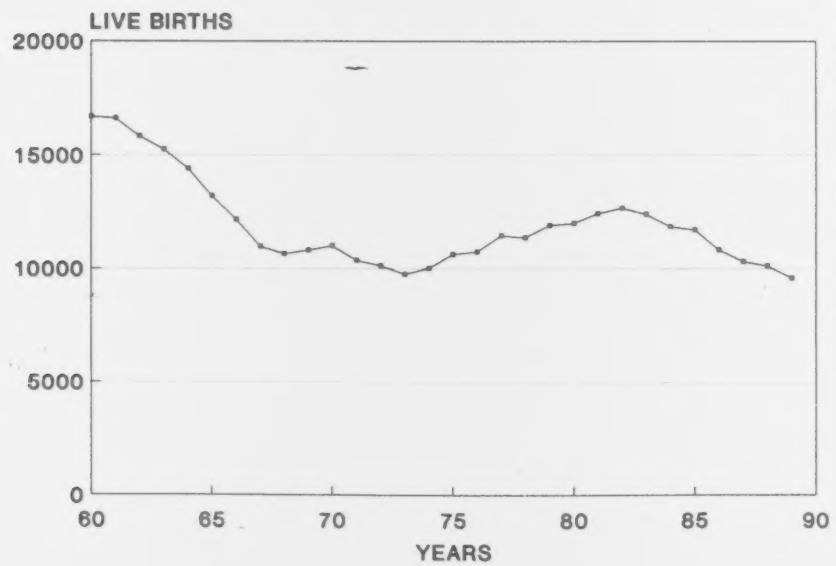


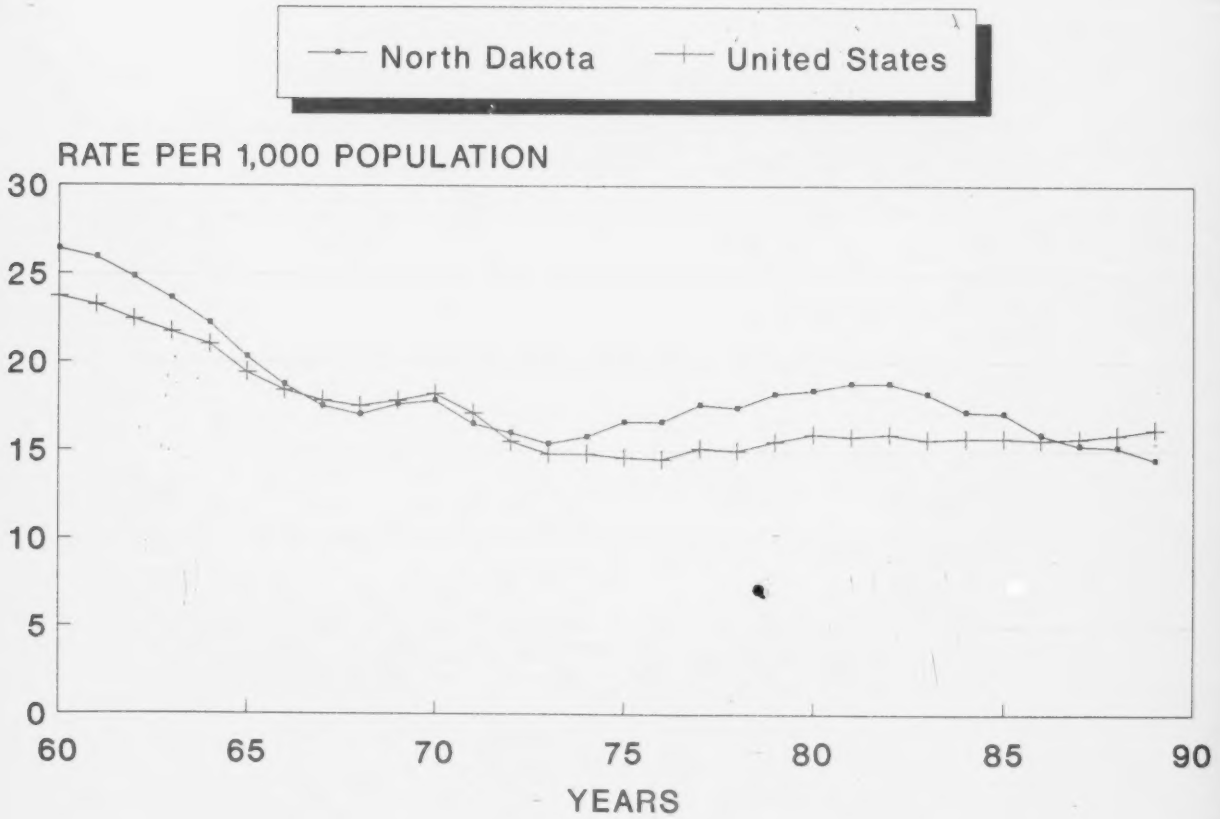
Table 1.1
Resident Live Births and Crude Birth Rates
North Dakota and United States
1960-1989

Year	United States		North Dakota	
	Live Births	Crude Birth Rate	Live Births	Crude Birth Rate
1960	4,257,850	23.7	16,690	26.4
1961	4,268,326	23.2	16,615	25.9
1962	4,167,362	22.4	15,842	24.8
1963	4,098,020	21.7	15,257	23.6
1964	4,027,490	21.0	14,405	22.2
1965	3,760,358	19.4	13,198	20.3
1966	3,606,274	18.4	12,159	18.7
1967	3,520,959	17.8	10,962	17.5
1968	3,501,564	17.5	10,631	17.0
1969	3,600,206	17.8	10,798	17.6
1970	3,731,386	18.2	11,004	17.8
1971	3,555,970	17.1	10,361	16.5
1972	3,258,411	15.5	10,115	16.0
1973	3,136,965	14.8	9,738	15.4
1974	3,159,958	14.8	10,010	15.8
1975	3,144,198	14.6	10,624	16.6
1976	3,167,788	14.5	10,724	16.6
1977	3,326,632	15.1	11,450	17.6
1978	3,333,279	15.0	11,347	17.4
1979	3,494,398	15.5	11,883	18.2
1980	3,612,258	15.9	11,995	18.4
1981	3,629,238	15.8	12,407	18.8
1982	3,680,537	15.9	12,655	18.8
1983	3,638,933	15.6	12,380	18.2
1984	3,669,141	15.7	11,833	17.2
1985	3,760,561	15.7	11,697	17.1
1986	3,756,547	15.6	10,824	15.9
1987	3,829,000(1)	15.7	10,303	15.3
1988	3,913,000(1)	15.9	10,111	15.2
1989	4,021,000(1)	16.2	9,566	14.5

(1) U.S. Estimate

Generally, state and national live birth frequency and crude birth rate patterns have been similar. These patterns showed a steady decline from 1960 through 1968, slight fluctuation from 1969 to 1973, and steady increase from 1973 through 1982. However, in 1983 through 1989, both North Dakota resident live birth frequencies and crude birth rates declined, a reversal of the 1973-1982 pattern of increase. Generally, since 1960, North Dakota's crude birth rates were higher than corresponding national rates.

Figure 1.2
Resident Live Birth Rates
North Dakota and United States
1960-1989



Racial Composition

During the 1980-1989 time period the racial composition of North Dakota resident live births changed slightly. White births declined from 91.2 percent to 86.8 percent of total live births, while non-white resident live births rose from 8.8 percent to 13.2 percent (Table 1.2).

Table 1.2
Resident Live Births by Race of Infant
North Dakota, 1980-1989

Year	Total Live Births		White		Native American		Other	
	Number	Percent of All Births	Number	Percent of All Births	Number	Percent of All Births	Number	Percent of All Births
1980	11,995	100.0	10,935	91.2	864	7.2	196	1.6
1981	12,407	100.0	11,230	90.5	973	7.8	204	1.6
1982	12,655	100.0	11,395	90.0	1,034	8.2	226	1.8
1983	12,380	100.0	11,129	89.9	1,023	8.3	228	1.8
1984	11,833	100.0	10,639	89.9	962	8.1	232	2.0
1985	11,697	100.0	10,441	89.3	1,013	8.7	243	2.1
1986	10,824	100.0	9,624	88.9	984	9.1	216	2.0
1987	10,303	100.0	9,080	88.1	971	9.4	252	2.4
1988	10,111	100.0	8,855	87.6	1,025	10.1	231	2.3
1989	9,566	100.0	8,307	86.8	1,060	11.1	199	2.1

Age of Mother

In 1989, 33.6 percent of all resident live births were to mothers less than 25 years of age (Table 1.3) as compared with 48.4 percent reported in 1980. The median age for all mothers was 27, while the corresponding medians for white mothers and Native American mothers were 27 and 24, respectively (Table 1.3).

Table 1.3
Resident Live Births by Age of
Mother and Race of Infant
North Dakota, 1989

Age of Mother	Race of Infant							
	All Races		White		Native American		Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 15 Years	7	0.1	3	0.0	4	0.4	--	--
15-19 Years	722	7.5	519	6.2	188	17.7	15	7.5
20-24 Years	2,481	25.9	2,032	24.5	378	35.7	71	35.7
25-29 Years	3,493	36.5	3,139	37.8	291	27.5	63	31.7
30-34 Years	2,115	22.1	1,922	23.1	152	14.3	41	20.6
35-39 Years	656	6.9	605	7.3	43	4.1	8	4.0
40-44 Years	90	0.9	85	1.0	4	0.4	1	0.5
45 Years and Over	1	0.0	1	0.0	--	--	--	--
Not Stated	1	0.0	1	0.0	--	--	--	--
Total	9,566	100.0	8,307	100.0	1,060	100.0	199	100.0
Median Age of Mother	27		27		24		26	

Prenatal Care

For the 9,566 live born infants in 1989, prenatal care was initiated most often in the first trimester of pregnancy. This accounted for 80.8 percent of all women having live births. The most common number of prenatal visits fell within the interval 10-14. Tables 1.4 and 1.5 indicate the trimester prenatal care began and the number of prenatal visits.

During 1989, 67 resident live births or 7.0 of every 1,000 live births occurred without the mother having any prenatal care (Tables 1.4 and 1.5).

Table 1.4
Resident Live Births by Trimester
Prenatal Care Began and Race of Mother
North Dakota, 1989

Trimester Prenatal Care Began	Race of Mother							
	All Races		White		Native American		Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
None	67	0.7	49	0.6	17	1.9	1	0.6
First	7,734	80.8	7,060	83.0	551	61.0	123	75.9
Second	1,325	13.9	1,086	12.8	213	23.6	26	16.0
Third	244	2.6	152	1.8	86	9.5	6	3.7
Not Stated	196	2.0	154	1.8	36	4.0	6	3.7
Total	9,566	100.0	8,501	100.0	903	100.0	162	100.0

Table 1.5
Resident Live Births by Number
of Prenatal Visits and Race of Mother
North Dakota, 1989

Number of Prenatal Visits	Race of Mother							
	All Races		White		Native American		Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
None	67	0.7	49	0.6	17	1.9	1	0.6
1-4	379	4.0	229	2.7	144	15.9	6	3.7
5-9	3,272	34.2	2,864	33.7	374	41.4	34	21.0
10-14	4,969	51.9	4,568	53.7	298	33.0	103	63.6
15-19	668	7.0	614	7.2	40	4.4	14	8.6
20+	98	1.0	87	1.0	10	1.1	1	0.6
Not Stated	113	1.2	90	1.1	20	2.2	3	1.9
Total	9,566	100.0	8,501	100.0	903	100.0	162	100.0

Table 1.6
Resident Live Births With No Prenatal Care
by Age and Race of Mother
North Dakota, 1989

Age of Mother	Race of Mother							
	All Races		White		Native American		Other	
	Number	Ratio	Number	Ratio	Number	Ratio	Number	Ratio
Under 15 Years	1	142.9	--	--	1	250.0	--	--
15-19 Years	14	19.4	9	17.3	5	26.6	--	--
20-24 Years	22	8.9	18	8.9	3	7.9	1	14.1
25-29 Years	14	4.0	8	2.5	6	20.6	--	--
30-34 Years	10	4.7	9	4.7	1	6.6	--	--
35-39 Years	4	6.1	3	5.0	1	23.3	--	--
40-44 Years	2	22.2	2	23.5	--	--	--	--
45 Years and Over	--	--	--	--	--	--	--	--
Total	67	7.0	49	5.9	17	16.0	1	5.1

Birth Weight

In 1989 the median birth weight for all North Dakota resident live births was 3,461 grams or approximately 7 pounds, 10 ounces (Table 1.7). A subgroup of major importance when analyzing birth weights is the infant weighing 2,500 grams or less (approximately 5 pounds, 8 ounces) at birth. Such infants have historically experienced higher mortality rates in their first year than those born with greater birth weight. In 1989, 481 total live births were at or below 2,500 grams or approximately 50 of every 1,000 live births.

The proportion of low weight infants varies with the race and age of the mother and the amount of prenatal care she has received. Tables 1.8 and 1.9 present data on these three variables with respect to birth weight.

Table 1.7
Resident Live Births by
Birth Weight and Race of Infant
North Dakota, 1989

Weight (In Grams)	Total	Race of Infant		
		White	Native American	Other
0-500	10	8	2	--
501-1,000	28	26	2	--
1,001-1,500	34	29	5	--
1,501-2,000	94	78	13	3
2,001-2,500	315	265	44	6
2,501-3,000	1,143	978	126	39
3,001-3,500	3,411	2,994	346	71
3,501-4,000	3,158	2,766	328	64
4,001-4,500	1,131	971	147	13
4,501-5,000	219	175	42	2
5,001 and Over	22	16	5	1
Not Stated	1	1	--	--
Total	9,566	8,307	1,060	199
Median Weight	3,461	3,461	3,489	3,376

Table 1.8
Resident Low Weight(1) Live
Births and Low Birth Weight Ratios by
Age of Mother and Race of Infant
North Dakota, 1989

Age of Mother	Race of Infant							
	All Races		White		Native American		Other	
	Number	Ratio	Number	Ratio	Number	Ratio	Number	Ratio
Under 15 Years	3	428.6	1	333.3	2	500.0	--	--
15-19 Years	52	72.0	36	69.4	16	85.1	--	--
20-24 Years	120	48.4	105	51.7	14	37.0	1	14.1
25-29 Years	158	45.2	139	44.3	16	55.0	3	47.6
30-34 Years	97	45.9	81	42.1	11	72.4	5	122.0
35-39 Years	41	62.5	34	56.2	7	162.8	--	--
40-44 Years	8	88.9	8	94.1	--	--	--	--
45 Years and Over	1	1000.0	1	1000.0	--	--	--	--
Not Stated	1	--	1	--	--	--	--	--
Total	481	50.3	406	48.9	66	62.3	9	45.5

(1) 2,500 Grams or Less

Table 1.9
Resident Low Weight(1) Live
Births and Low Birth Weight Ratios by
Number of Prenatal Visits and Race of Mother
North Dakota, 1989

Number of Prenatal Visits	Race of Mother							
	All Races		White		Native American		Other	
	Number	Ratio	Number	Ratio	Number	Ratio	Number	Ratio
None	6	89.6	4	81.6	1	58.8	1	1000.0
1-4	61	160.9	41	179.0	19	131.9	1	166.7
5-9	215	65.7	188	65.6	27	72.2	--	--
10-14	159	32.0	146	32.0	11	36.9	2	19.4
15-19	16	24.0	16	26.1	--	--	--	--
20+	7	71.4	6	69.0	1	100.0	--	--
Not Stated	17	--	14	--	1	--	2	--
Total	481	50.3	415	48.8	60	66.4	6	37.0

(1) 2,500 Grams or Less

Attendant at Birth

Data presented in Table 1.10 indicate nearly 97 percent of the resident live births were attended by a physician, either a M.D. or D.O. In addition, there were 15 live births attended by midwives and 256 live births attended to by registered nurses.

Table 1.10
Resident Live Births by Type of Attendant
North Dakota, 1989

Attendant	Number	Percent
Physician, M.D.	9,214	96.3
Physician, D.O.	69	0.7
Registered Nurse	256	2.7
Midwife	15	0.2
Other	12	0.1
Total	9,566	100.0

Out-of-Wedlock Live Births

Between 1960 and 1989 the number of North Dakota resident out-of-wedlock live births increased substantially (Figure 1.3 and Table 1.11). The smallest number of resident out-of-wedlock live births recorded since 1960 was 423 in 1961, while the largest corresponding frequency was 1,614 in 1989. During the same time period, out-of-wedlock ratios, which expresses out-of-wedlock live births per 1,000 total live births, has also increased substantially (Figure 1.4 and Table 1.11). The smallest ratio was 25.5 experienced in 1961, while the largest corresponding figure was 168.7 reported in 1989.

Figure 1.3
Resident Out-of-Wedlock Live Births
North Dakota, 1960-1989

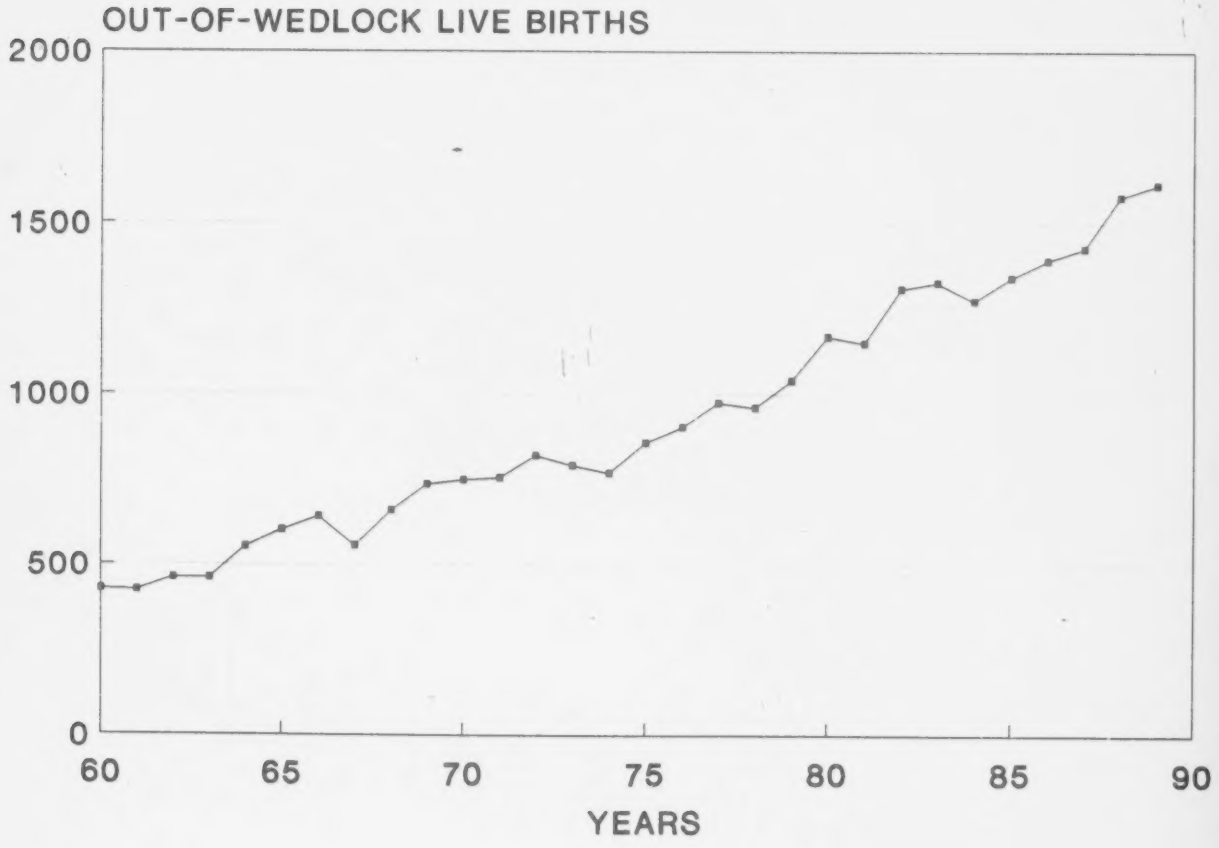
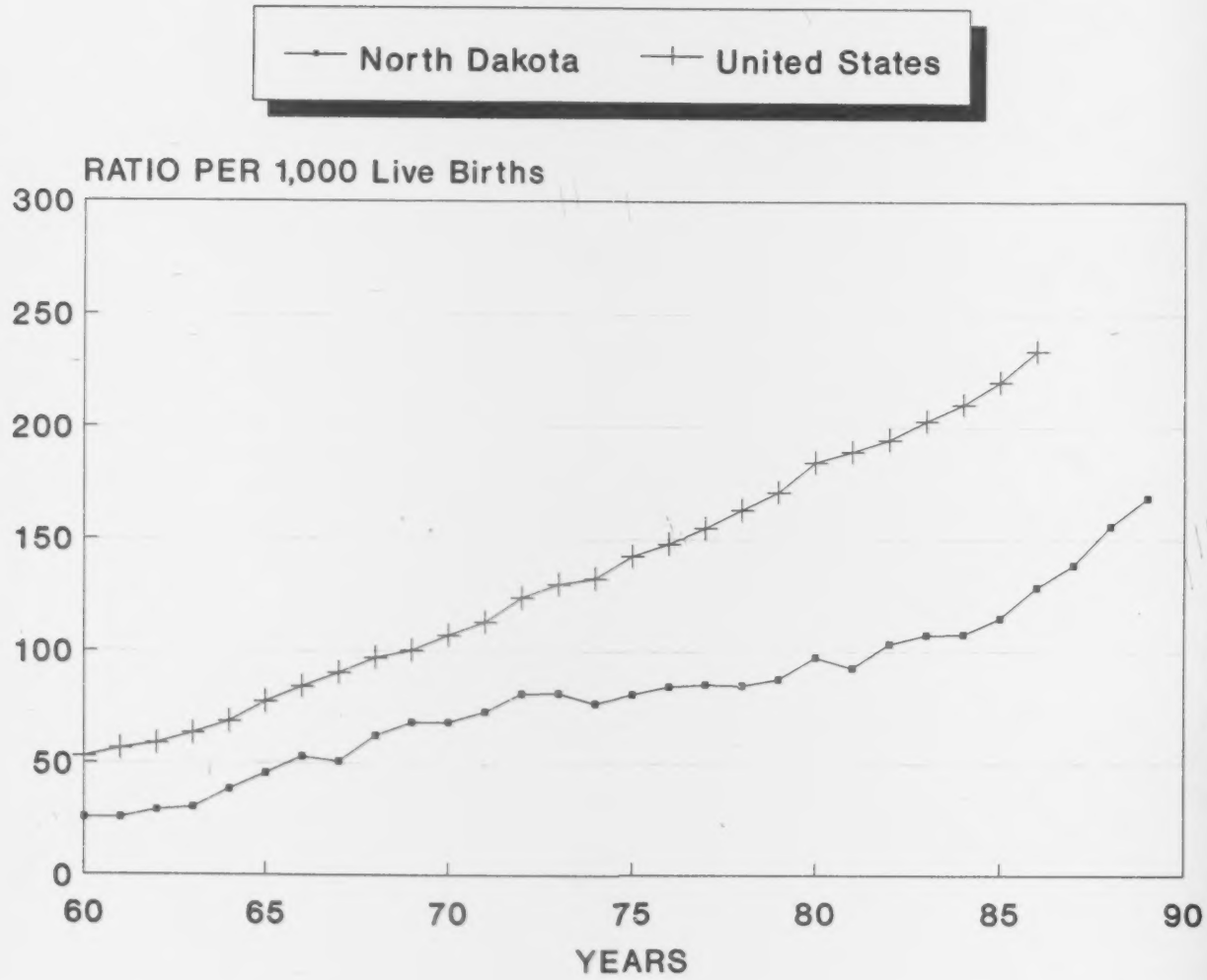


Table 1.11
Resident Out-of-Wedlock Live Births and
Out-of-Wedlock Birth Ratios
North Dakota and United States
1960-1989

Year	United States		North Dakota	
	Out-of-Wedlock Births	Out-of-Wedlock Ratio	Out-of-Wedlock Births	Out-of-Wedlock Ratio
1960	224,300	52.7	427	25.6
1961	240,200	56.3	423	25.5
1962	245,100	58.8	460	29.0
1963	259,400	63.3	460	30.2
1964	275,700	68.5	552	38.3
1965	291,200	77.4	601	45.5
1966	302,400	83.9	641	52.7
1967	318,100	90.3	556	50.7
1968	339,200	96.9	659	62.0
1969	360,800	100.2	735	68.1
1970	398,700	106.9	748	68.0
1971	401,400	112.9	754	72.8
1972	403,200	123.7	819	81.0
1973	407,300	129.8	790	81.1
1974	418,100	132.3	768	76.7
1975	447,900	142.5	858	80.7
1976	468,100	147.8	904	84.3
1977	515,700	155.0	974	85.1
1978	543,900	163.2	961	84.7
1979	597,800	171.1	1,040	87.5
1980	665,747	184.3	1,168	97.4
1981	686,605	189.2	1,150	92.7
1982	715,227	194.3	1,308	103.4
1983	737,893	202.8	1,328	107.3
1984	770,355	210.0	1,274	107.7
1985	828,174	220.2	1,342	114.7
1986	878,477	233.9	1,393	128.7
1987	--(1)	--	1,427	138.5
1988	--(1)	--	1,578	156.1
1989	--(1)	--	1,614	168.7

(1) Not Available

Figure 1.4
Resident Out-of-Wedlock Birth Ratios
North Dakota and United States
1960-1989



Generally, state and national out-of-wedlock frequency and out-of-wedlock ratio patterns have been similar, that is, substantially increasing throughout the 1960-1989 time period. Although both have trended upward, North Dakota out-of-wedlock ratios have been much lower than corresponding national ratios.

Table 1.12
Resident Out-of-Wedlock Live Births
and Out-of-Wedlock Ratios by Age of Mother
North Dakota, 1989

Age of Mother	Total Live Births	Out-of-Wedlock Births	Out-of-Wedlock Ratio
Under 15 Years	7	7	1000.0
15-19 Years	722	497	688.4
20-24 Years	2,481	600	241.8
25-29 Years	3,493	314	89.9
30-34 Years	2,115	131	61.9
35-39 Years	656	49	74.7
40-44 Years	90	16	177.8
45 Years and Over	1	--	--
Not Stated	1	--	--
Total	9,566	1,614	168.7

Congenital Anomalies

One or more congenital anomalies were reported in 214 of the 9,566 resident live births in 1989. This translates to a rate of 2237.1 per 100,000 live births. "Other Musculoskeletal/Integumental Anomalies" was the most frequent reported anomaly occurring (32 conditions). The frequency of reporting specific anomalies is affected by the reporting cycle. Many conditions may or may not be apparent at birth when the birth certificate is completed. The increase from 1988 may be due to the new reporting procedure brought on by the more detailed 1989 birth certificate.

Table 1.13
Multiple Resident Congenital Anomalies and
Associated Rates by Types of Anomaly
North Dakota, 1989

Type of Anomaly	Number of Conditions	Rate Per 100,000 Live Births
Spina Bifida/Meningocele	8	83.6
Hydrocephalus	5	52.3
Microcephalus	2	20.9
Other Central Nervous System Anomalies	2	20.9
Heart Malformations	18	188.2
Other Circulatory/Respiratory Anomalies	27	282.2
Rectal Atresia/Stenosis	2	20.9
Tracheoesophageal Fistula/Esophageal Atresia	4	41.8
Omphalocele/Gastroschisis	2	20.9
Other Gastrointestinal Anomalies	5	52.3
Malformed Genitalia	10	104.5
Renal Agenesis	1	10.5
Other Urogenital Anomalies	26	271.8
Cleft Lip/Palate	20	209.1
Polydactyly/Syndactyly/Adactyly	7	73.2
Club Foot	13	135.9
Diaphragmatic Hernia	3	31.4
Other Musculoskeletal/Integumental Anomalies	32	334.5
Down's Syndrome	16	167.3
Other Chromosomal Anomalies	12	125.4
Other	44	460.0
Total	259	2707.5

MORTALITY

Mortality:
An Overview 1989

Total Resident Deaths	5,494
Crude Death Rate	8.3
Total Resident Fetal Deaths	57
Fetal Death Ratio	5.9
Infant Deaths	77
Infant Death Rate	8.0
Neonatal Deaths	45
Neonatal Death Rate	4.7
Perinatal Deaths	102
Perinatal Death Rate	10.6
Maternal Deaths	1
Maternal Death Rate	1.0

Deaths

Between 1960 and 1989 the number of deaths occurring to North Dakota residents decreased from 5,664 to 5,494 (Figure 2.1). During the same time period the crude death rate also declined, from 8.5 to 8.3. The lowest crude death rate was recorded in 1986 (7.8), while the highest corresponding rates were observed in 1969, 1970, 1973, and 1974 (a rate of 9.1) (Figure 2.2 and Table 2.1).

Generally, state and national crude death rates have followed similar trends, ones of slight decline, during the 1960-1989 time period. Although state and national crude death rates have followed similar patterns, generally, North Dakota's crude death rates have been lower than corresponding national rates (Figure 2.2 and Table 2.1).

Of the 5,494 North Dakota resident deaths reported in 1989, 2,989 were male, 2,505 were female.

The most frequent number of deaths occurred to individuals 80-84 years of age and the least number to persons aged 10-14.

Figure 2.1
Resident Deaths
North Dakota, 1960-1989

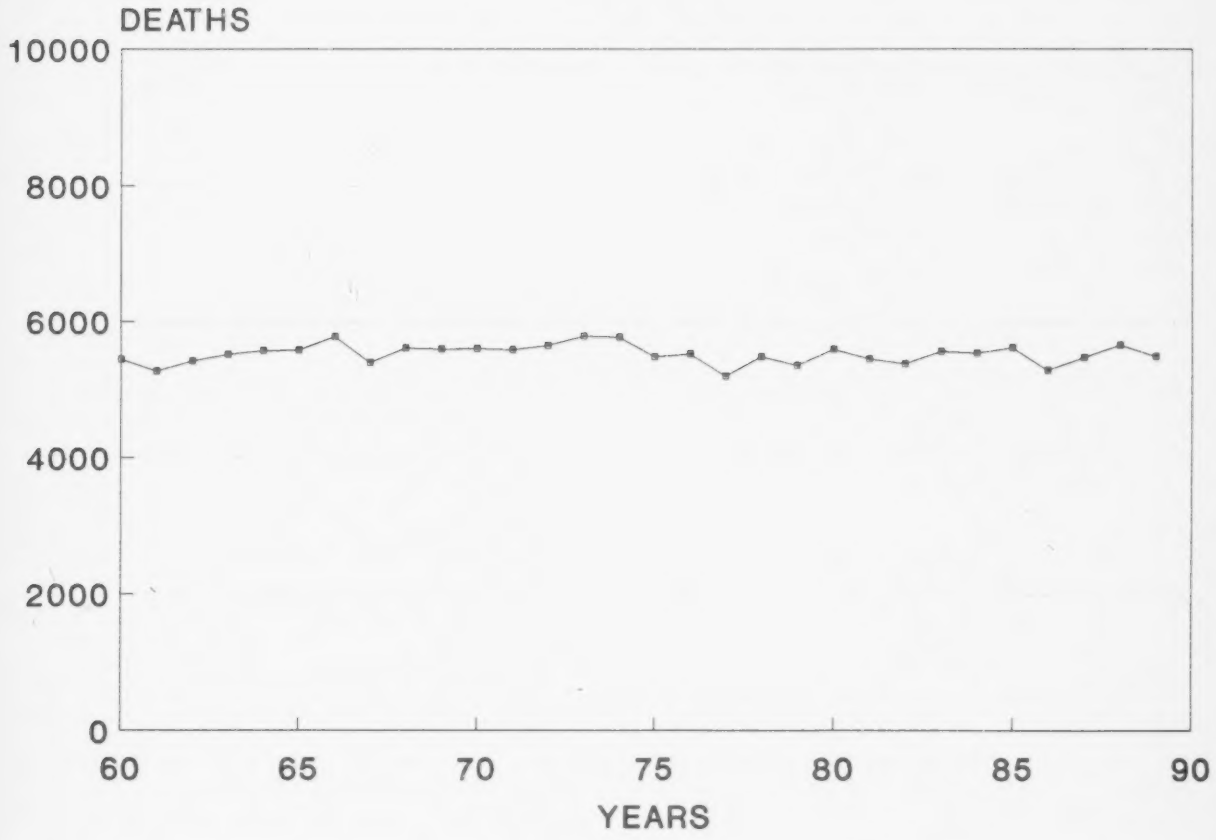


Table 2.1
Resident Deaths and Crude Death Rates
North Dakota and United States
1960-1989

Year	United States		North Dakota	
	Deaths	Crude Death Rate	Deaths	Crude Death Rate
1960	1,711,982	9.5	5,449	8.6
1961	1,701,522	9.3	5,274	8.2
1962	1,756,720	9.5	5,424	8.5
1963	1,813,549	9.6	5,516	8.5
1964	1,798,051	9.4	5,570	8.6
1965	1,828,136	9.4	5,579	8.6
1966	1,863,149	9.5	5,783	8.9
1967	1,851,323	9.4	5,401	8.6
1968	1,930,082	9.7	5,611	9.0
1969	1,921,990	9.5	5,595	9.1
1970	1,921,031	9.4	5,606	9.1
1971	1,927,543	9.3	5,591	8.9
1972	1,963,944	9.4	5,651	9.0
1973	1,973,003	9.3	5,789	9.1
1974	1,934,388	9.0	5,772	9.1
1975	1,892,879	8.8	5,482	8.6
1976	1,909,440	8.8	5,523	8.5
1977	1,899,597	8.6	5,198	8.0
1978	1,927,788	8.7	5,484	8.4
1979	1,913,841	8.5	5,360	8.2
1980	1,989,841	8.7	5,596	8.6
1981	1,977,981	8.6	5,456	8.3
1982	1,974,797	8.5	5,385	8.0
1983	2,019,201	8.6	5,569	8.2
1984	2,039,369	8.7	5,538	8.1
1985	2,086,440	8.7	5,618	8.2
1986	2,105,361	8.7	5,285	7.8
1987	2,125,080(1)	8.7	5,476	8.1
1988	2,165,920(1)	8.8	5,664	8.5
1989	2,155,000(1)	8.7	5,494	8.3

(1) U.S. Estimate

Figure 2.2
Resident Death Rates
North Dakota and United States
1960-1989

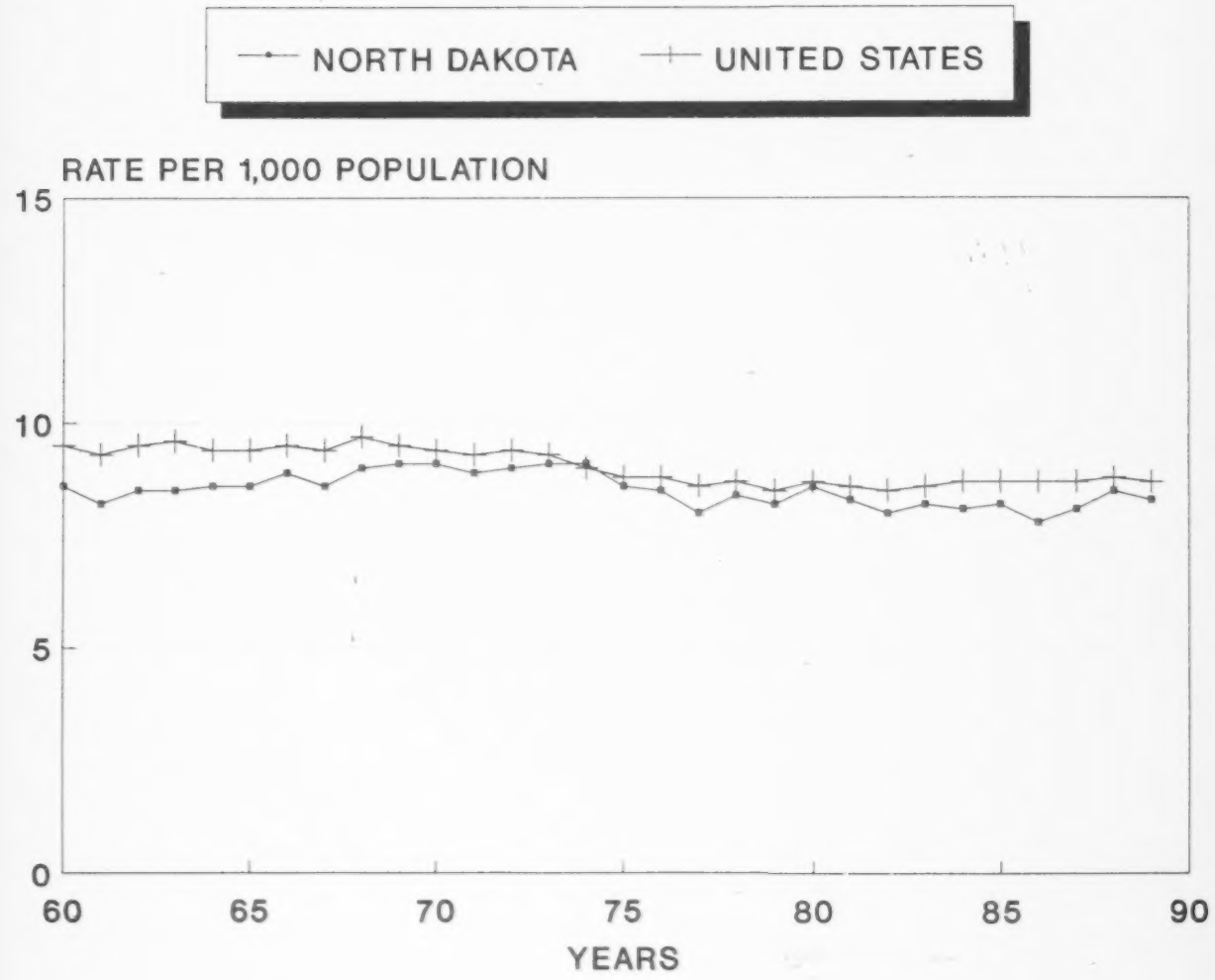


Table 2.2
Resident Deaths by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White			Native American			Other		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
Under 1 Year	77	39	38	62	31	31	14	7	7	1	1	--
1-4 Years	19	10	9	15	8	7	4	2	2	--	--	--
5-9 Years	14	11	3	12	10	2	2	1	1	--	--	--
10-14 Years	13	6	7	12	6	6	1	--	1	--	--	--
15-19 Years	24	20	4	21	17	4	3	3	--	--	--	--
20-24 Years	39	32	7	32	25	7	7	7	--	--	--	--
25-29 Years	40	30	10	31	22	9	9	8	1	--	--	--
30-34 Years	39	24	15	34	21	13	5	3	2	--	--	--
35-39 Years	61	40	21	53	34	19	7	5	2	1	1	--
40-44 Years	68	42	26	64	38	26	4	4	--	--	--	--
45-49 Years	103	70	33	94	63	31	9	7	2	--	--	--
50-54 Years	125	77	48	111	68	43	13	8	5	1	1	--
55-59 Years	195	115	80	175	108	67	18	7	11	2	--	2
60-64 Years	324	221	103	312	213	99	10	6	4	2	2	--
65-69 Years	467	310	157	452	303	149	14	6	8	1	1	--
70-74 Years	637	383	254	622	373	249	14	9	5	1	1	--
75-79 Years	782	468	314	776	463	313	6	5	1	--	--	--
80-84 Years	937	487	450	921	479	442	15	7	8	1	1	--
85-89 Years	750	348	402	746	344	402	4	4	--	--	--	--
90-94 Years	522	177	345	520	176	344	2	1	1	--	--	--
95 and Over	258	79	179	257	79	178	1	--	1	--	--	--
Total	5,494	2,989	2,505	5,322	2,881	2,441	162	100	62	10	8	2

Leading Causes of Death

In 1989, 84.2 percent of all North Dakota resident deaths were attributable to the ten leading causes of death. These principal causes of death, within the state, have remained much the same in recent years. The number of deaths and death rates for the ten leading causes are shown in Table 2.3. The proportion of the total deaths resulting from five of the ten principal causes is illustrated in Figure 2.3. In addition, median ages at death by leading cause of death are presented in Figure 2.4.

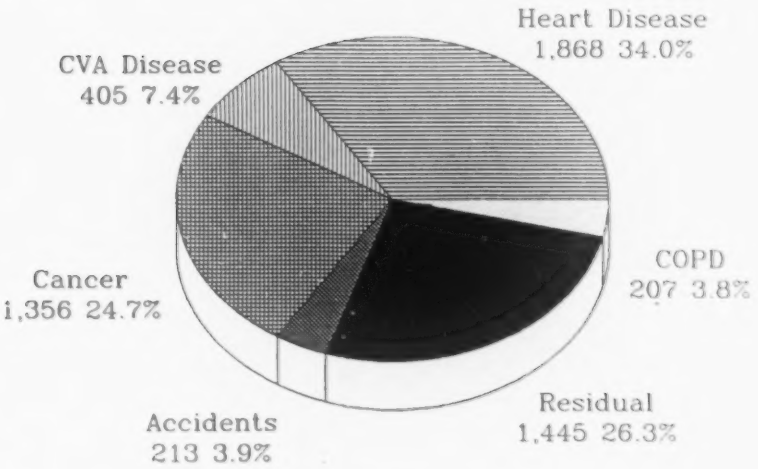
Table 2.3
Leading Causes of Resident
Death and Cause-Specific Rates (1)
North Dakota and United States
1989

United States (2)				North Dakota			
Cause	Rank	Deaths	Death Rate	Cause	Rank	Deaths	Death Rate
Diseases of the Heart	1	734,450	295.9	Diseases of the Heart	1	1,868	283.0
Malignant Neoplasms	2	496,130	199.9	Malignant Neoplasms	2	1,356	205.5
Cerebrovascular Disease	3	146,170	58.9	Cerebrovascular Disease	3	405	61.4
Accidents	4	92,240	37.2	Accidents	4	213	32.3
Chronic Obstructive Pulmonary Diseases and Allied Conditions	5	83,950	33.8	Chronic Obstructive Pulmonary Diseases and Allied Conditions	5	207	31.4
Influenza and Pneumonia	6	75,140	30.3	Influenza and Pneumonia	6	193	29.2
Diabetes	7	46,520	18.7	Diabetes	7	144	21.8
Suicide	8	29,970	12.1	Atherosclerosis	8	94	14.2
Other Infectious and Parasitic Diseases (3)	9	27,740	11.2	Other Diseases of the Arteries	9	75	11.4
Cirrhosis of the Liver	10	26,350	10.6	Suicide	10	72	10.9
Subtotal		1,758,660	708.6	Subtotal		4,627	701.1
All Other Causes		396,340	159.5	All Other Causes		867	131.4
Total		2,155,000	868.1	Total		5,494	832.4

(1) Per 100,000 Resident Population
(2) Monthly Vital Statistics Report, Vol. 39, No. 1, May 8, 1990, National Center for Health Statistics, Provisional
(3) Includes Data for Deaths Due to Human Immunodeficiency Virus Infection

Figure 2.3
Leading Causes of Resident Death
North Dakota and United States
1989

NORTH DAKOTA



UNITED STATES

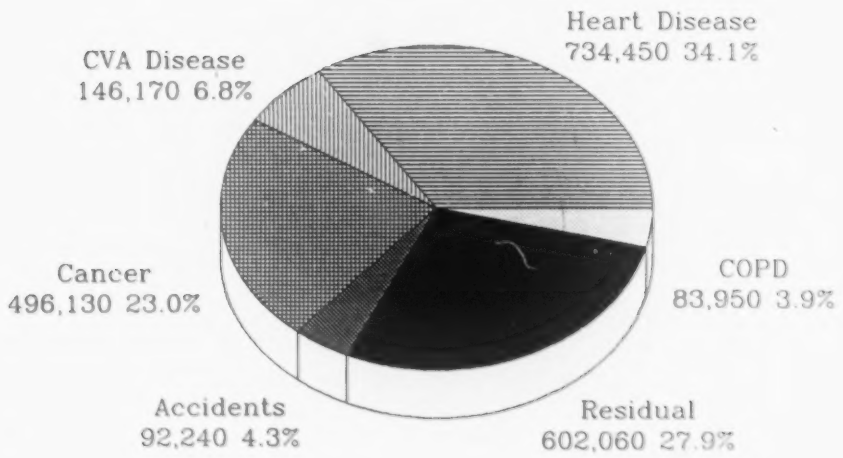
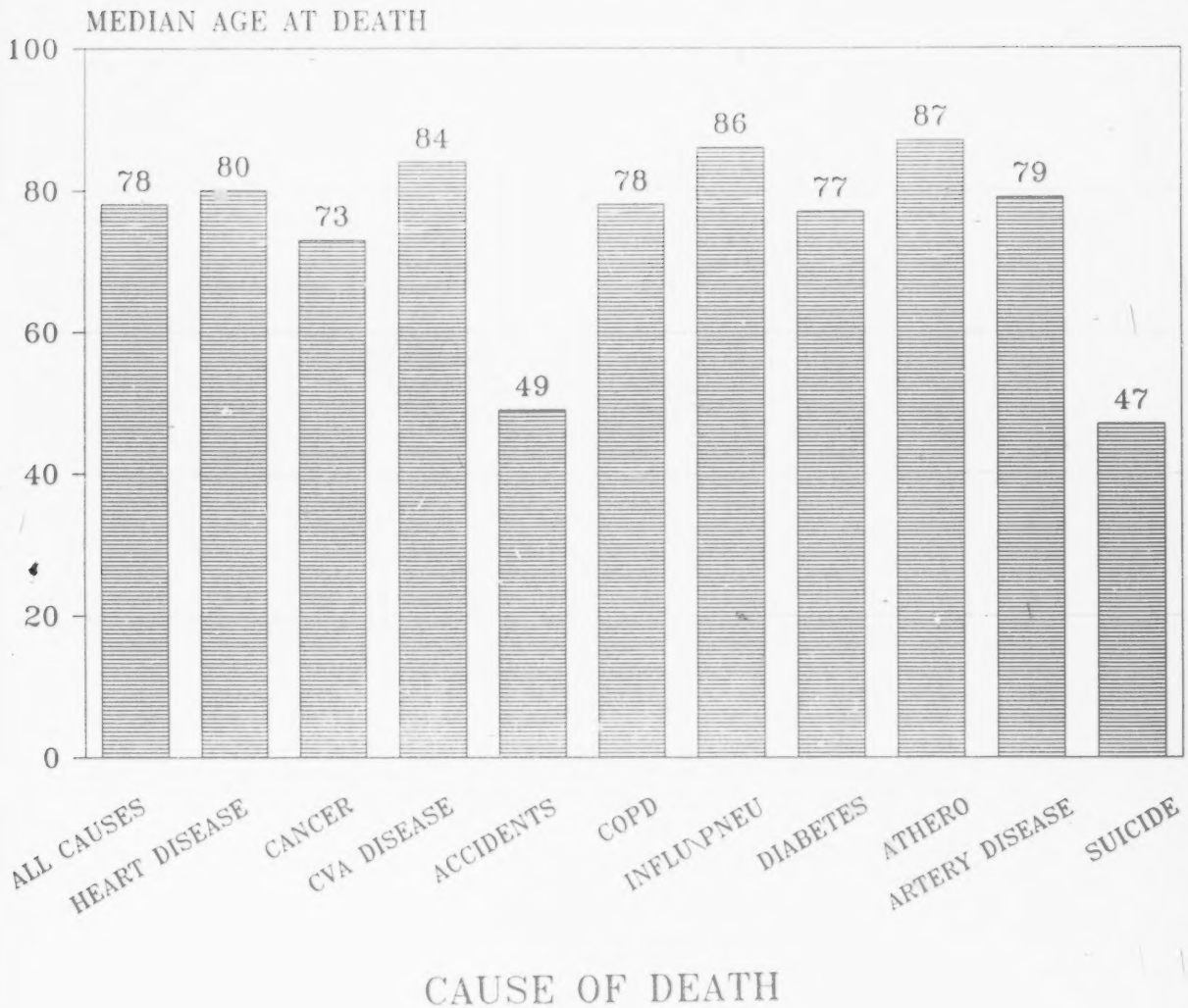


Figure 2.4
Leading Causes of Resident Death
by Median Age at Death
North Dakota, 1989



As mentioned previously, the most frequent causes of death among all North Dakota residents has changed little in recent years. This, however, does not imply similarity in the leading causes of death among residents at different ages or of different gender. Figure 2.5 and Table 2.4 contains the most frequent causes of death by age.

Examination of Figure 2.5 and Table 2.4 discloses that major differences in the leading causes of death were associated with age. Accidents and malignant neoplasms had the most widespread significance of any conditions, as they were present in 6 of the 8 age cohorts. In addition, diseases of the heart were present in 5 of the 8 cohorts. The variation in leading causes of death by age was most evident among deaths to infants under one year of age. External causes of death, including accidents and suicides, were predominant among persons ages 1 through 34. At ages 35 years and older, chronic conditions were responsible for the largest proportion of deaths.

Figure 2.5
Leading Causes of Resident Death by Age
North Dakota, 1989

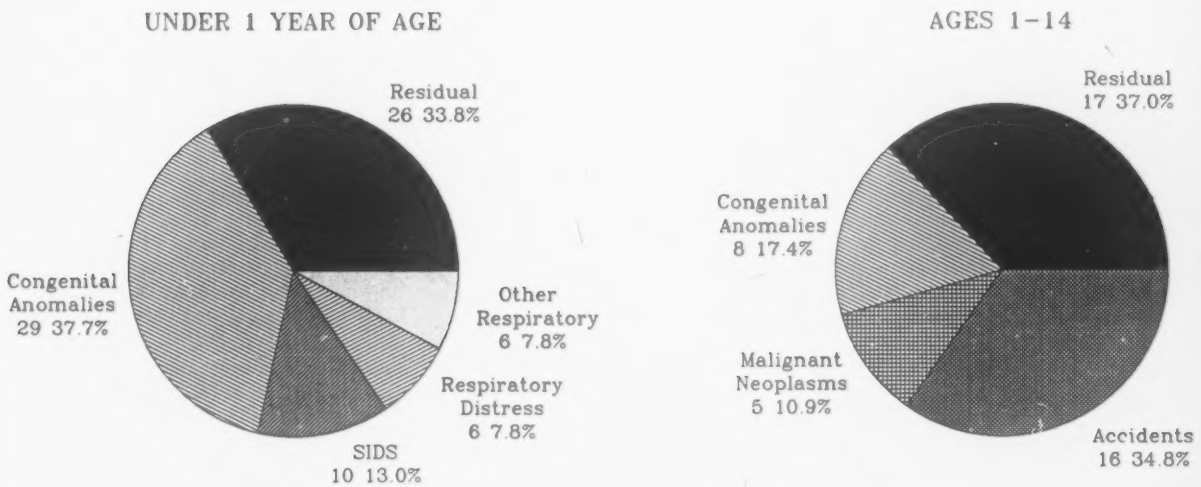
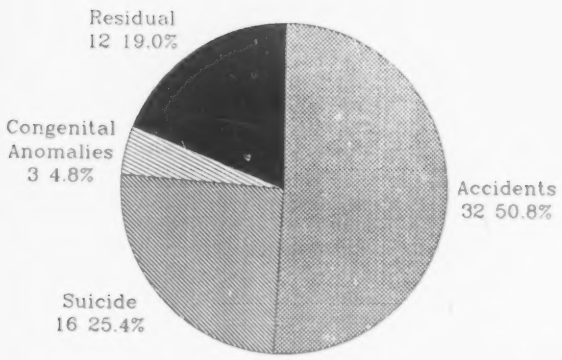
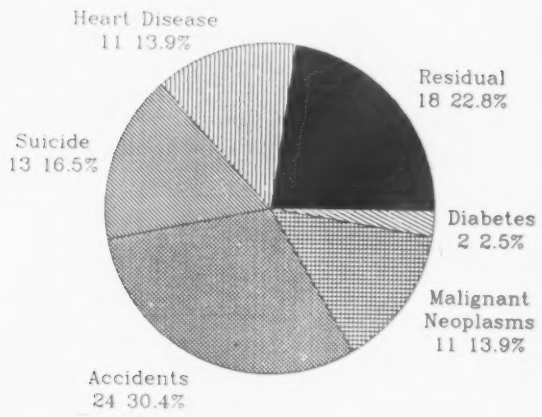


Figure 2.5 (Continued)
Leading Causes of Resident Death by Age
North Dakota, 1989

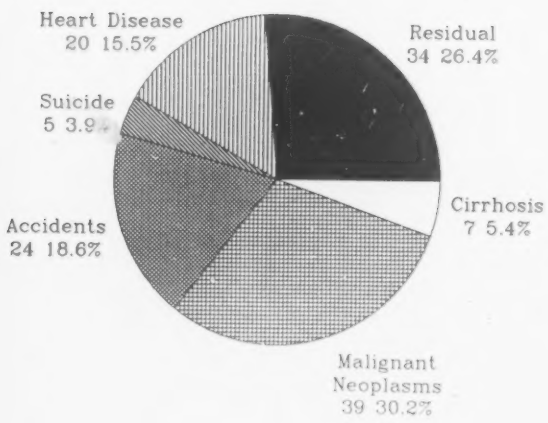
AGES 15-24



AGES 25-34



AGES 35-44



AGES 45-54

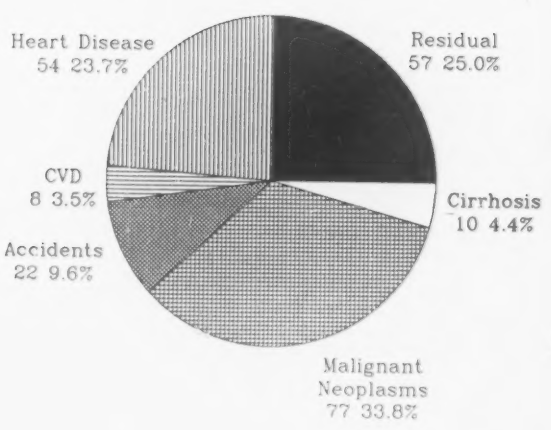
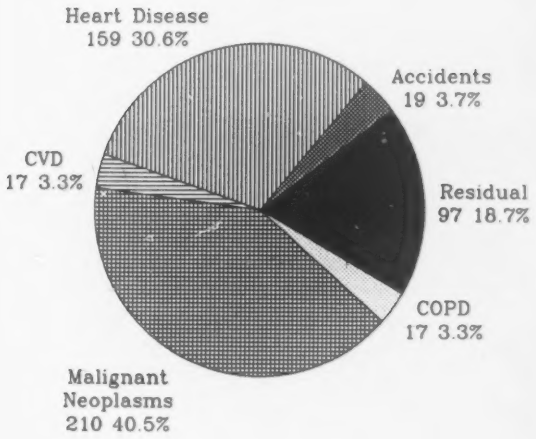


Figure 2.5 (Continued)
Leading Causes of Resident Death by Age
North Dakota, 1989

AGES 55-64



AGES 65 AND OLDER

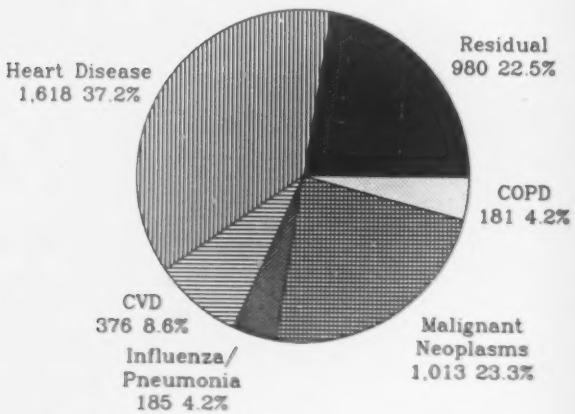


Table 2.4
Leading Causes of Resident Death by Age
North Dakota, 1989

Rank	All Ages	Under 1 Year	1-14	15-24	25-34	35-44	45-54	55-64	65 and Older
1	Diseases of the Heart 1,868	Congenital Anomalies 29	Accidents 16	Accidents 32	Accidents 24	Malignant Neoplasms 39	Malignant Neoplasms 77	Malignant Neoplasms 210	Diseases of the Heart 1,618
2	Malignant Neoplasms 1,356	SIDS 10	Congenital Anomalies 8	Suicide 16	Suicide 13	Accidents 24	Diseases of the Heart 54	Diseases of the Heart 159	Malignant Neoplasms 1,013
3	Cerebro-vascular Disease 405	Respiratory Distress Syndrome 6	Malignant Neoplasms 5	Congenital Anomalies 3	Malignant Neoplasms 11	Diseases of the Heart 20	Accidents 22	Accidents 19	Cerebro-vascular Disease 376
4	Accidents 213	Other Respiratory Conditions 6	------	------	Diseases of the Heart 11	Cirrhosis 7	Cirrhosis 10	Cerebro-vascular Disease 17	Influenza and Pneumonia 185
5	COPD 207	------	------	------	Diabetes 2	Suicide 5	Cerebro-vascular Disease 8	COPD 17	COPD 181
Total Deaths All Causes	5,494	77	46	63	79	129	228	519	4,353

Diseases of the Heart

In 1989, 1,868 North Dakota residents died from diseases of the heart. Heart disease continued to be the single leading cause of death in North Dakota and in the United States, accounting for more deaths than the next two leading causes combined; namely malignant neoplasms and cerebrovascular disease.

Examination of Table 2.5 indicates that heart disease deaths were more prevalent in the older age groups and that male heart disease deaths were more frequent than female deaths. Nearly 66 percent of the state's resident heart disease deaths were to individuals 75 years of age and older. In addition, male deaths were substantially more frequent in nearly all age groups.

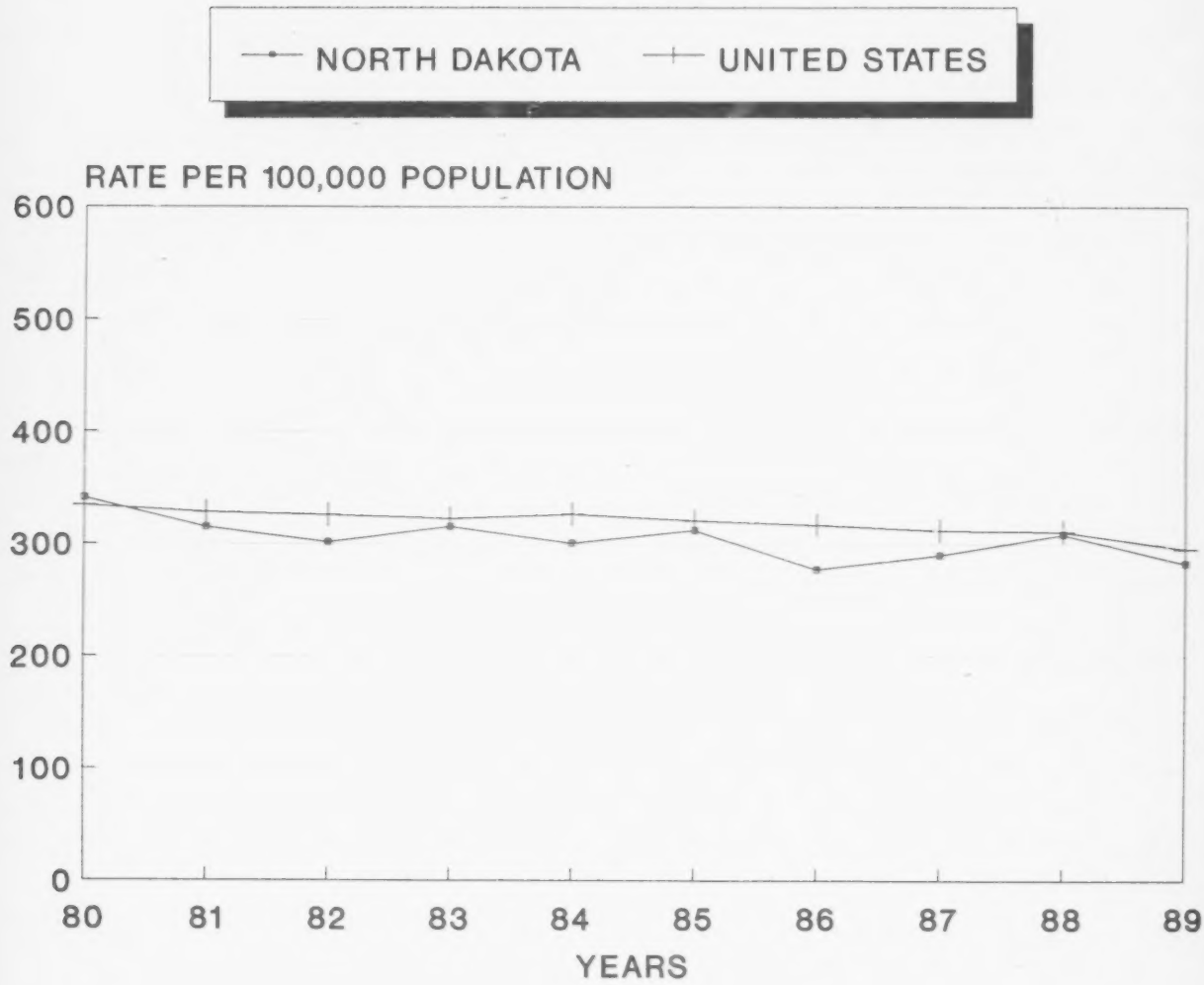
During the 1980-1989 time period, diseases of the heart death rates fluctuated somewhat, with a slight decline noted, both nationwide and within North Dakota. The 1989 state death rate was slightly lower than the corresponding United States rate (Figure 2.6).

Table 2.5
Resident Deaths Due to Diseases of the Heart
by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	3	2	1	1	--	1(1)	1
1-4 Years	--	--	--	--	--	--	--
5-14 Years	2	1	1	1	1	--	--
15-24 Years	1	1	--	1	--	--	--
25-34 Years	11	9	2	7	2	2	--
35-44 Years	20	16	4	14	4	2	--
45-54 Years	54	46	8	42	7	4	1
55-64 Years	159	120	39	116	35	4	4
65-74 Years	389	262	127	253	124	9(1)	3
75-84 Years	640	348	292	344	287	4	5
85+ Years	589	210	379	209	377	1	2
Total	1,868	1,015	853	988	837	27	16

(1) Includes One "Other" Race Male

Figure 2.6
Resident Heart Disease Death Rates
North Dakota and United States
1980-1989



Cancer

Of the 5,494 North Dakota resident deaths, 1,356 persons died from cancer in 1989. Of these cancer deaths, 744 were male, while 612 were female. Cancer deaths in general, and male cancer deaths in particular, were more prevalent in the older age groups (Table 2.6).

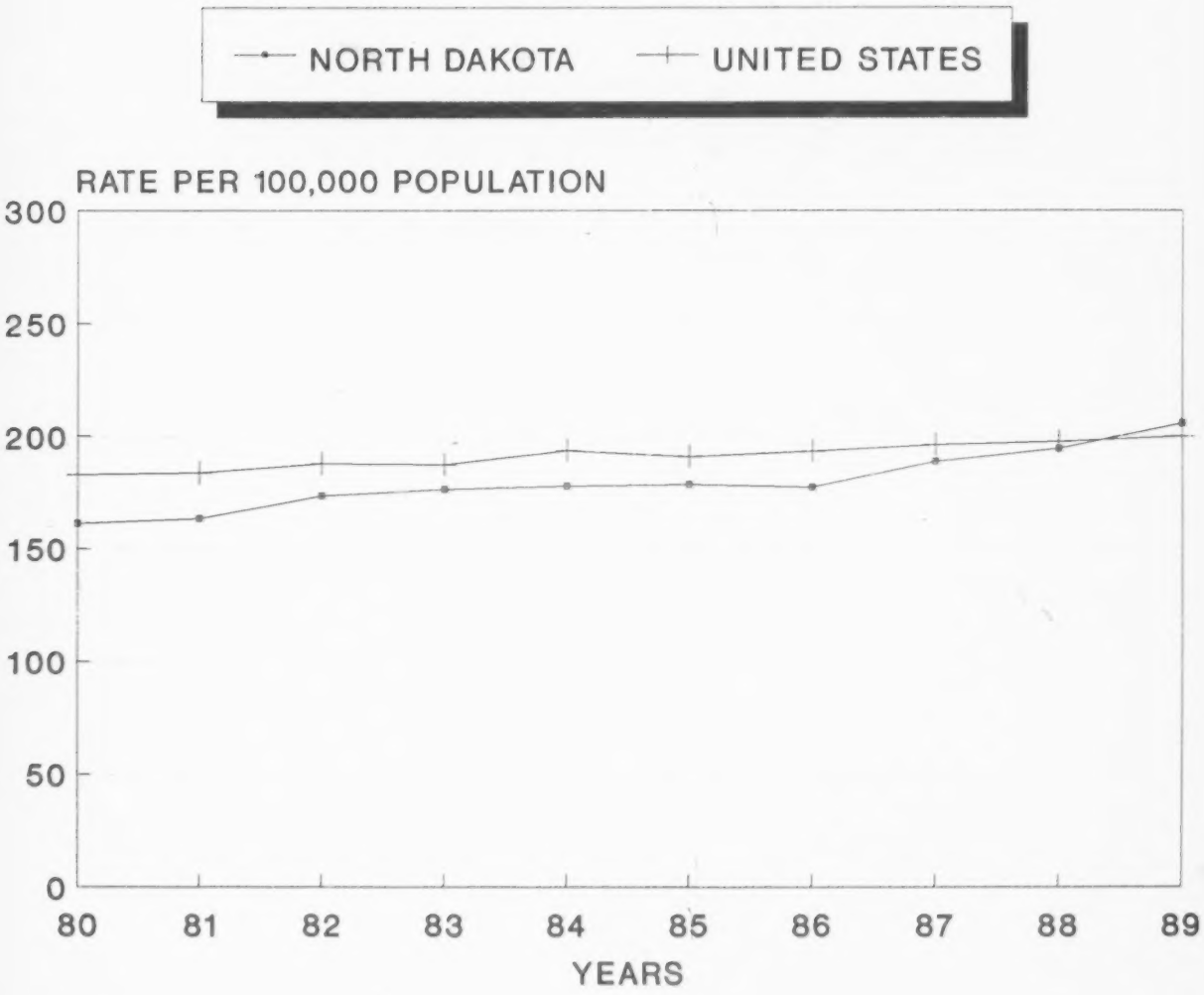
Generally, both national and statewide cancer death rates increased slightly during the 1980-1989 time period. In 1989 the state cancer death rate was slightly higher than the corresponding national rate (Figure 2.7).

Table 2.6
Resident Deaths Due to Malignant Neoplasms by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	2	1	1	1	1	--	--
5-14 Years	3	2	1	2	1	--	--
15-24 Years	1	--	1	--	1	--	--
25-34 Years	11	8	3	6	3	2	--
35-44 Years	39	13	26	13	26	--	--
45-54 Years	77	40	37	39	37	1	--
55-64 Years	210	114	96	110	90	4(1)	6(2)
65-74 Years	381	221	160	221	155	--	5
75-84 Years	413	238	175	237	173	1	2
85+ Years	219	107	112	106	112	1	--
Total	1,356	744	612	735	599	9	13

(1) Includes One "Other" Race Male
(2) Includes One "Other" Race Female

Figure 2.7
Resident Malignant Neoplasm Death Rates
North Dakota and United States
1980-1989



Cerebrovascular Disease

Deaths due to cerebrovascular disease (CVD) numbered 405 among North Dakota residents in 1989. Of the total deaths, 180 were male and 225 were female.

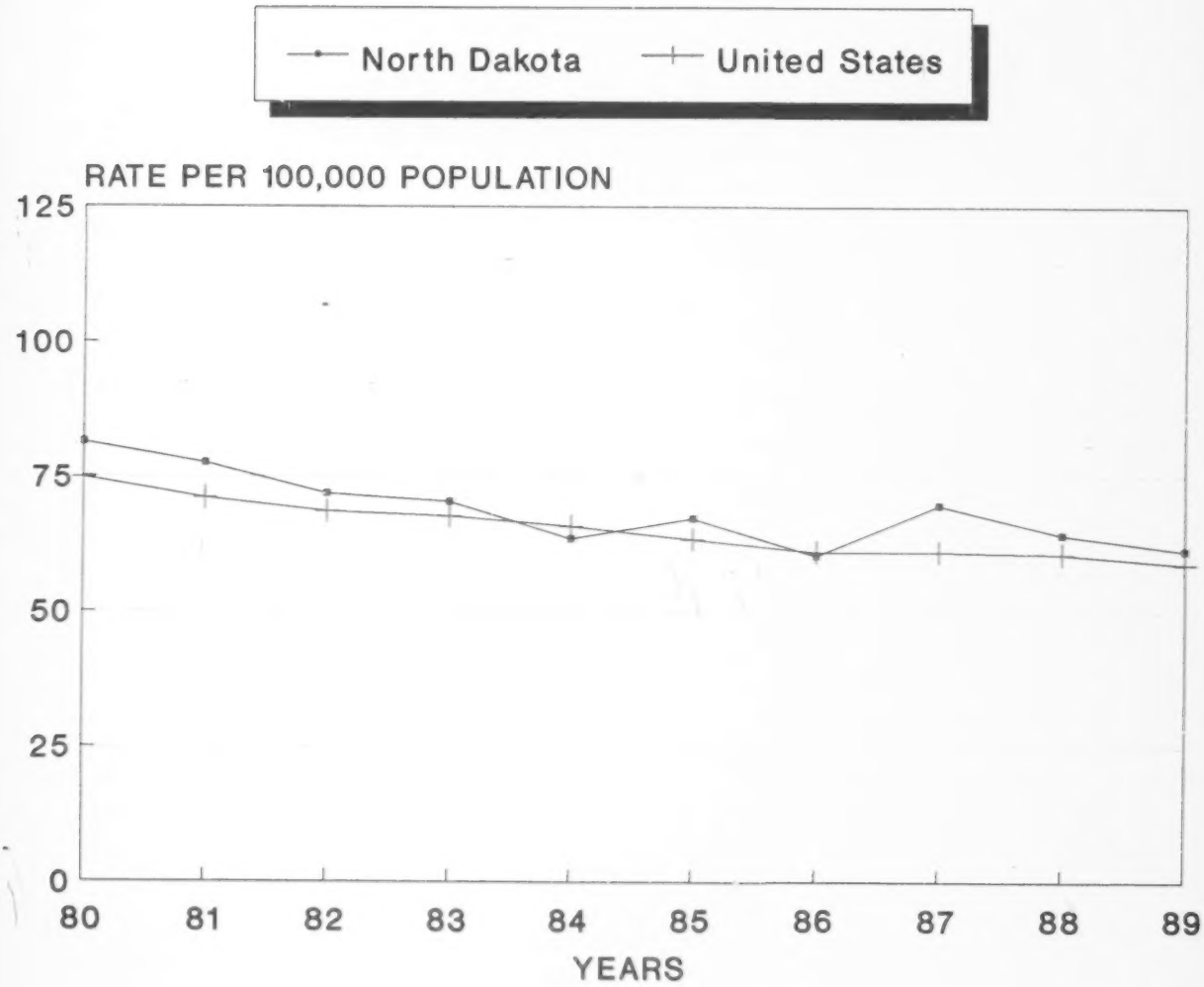
CVD deaths were substantially more prevalent in the older age groups. Nearly 81 percent of North Dakota's CVD deaths were to individuals ages 75 years and older (Table 2.7).

The historic pattern (1980-1989) of cerebrovascular disease death rates for North Dakota and the United States has been one of general decline. In 1989 the state CVD death rate was slightly higher than the corresponding national rate (Figure 2.8).

Table 2.7
Resident Deaths Due to
Cerebrovascular Disease by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	--	--	--	--	--	--	--
15-24 Years	1	--	1	--	1	--	--
25-34 Years	1	--	1	--	1	--	--
35-44 Years	2	1	1	1	1	--	--
45-54 Years	8	4	4	4	4	--	--
55-64 Years	17	11	6	11	5	--	1
65-74 Years	48	29	19	28	19	1	--
75-84 Years	150	76	74	75	73	1	1
85+ Years	178	59	119	58	119	1	--
Total	405	180	225	177	223	3	2

Figure 2.8
Resident Cerebrovascular Disease Death Rates
North Dakota and United States
1980-1989



Accidents

Approximately 4 percent of all North Dakota resident deaths were the results of accidents. Of the total 213 accidental deaths, 152 were male while 61 were female.

Accidental deaths among males were most frequent in the 15-24 age group. This age group accounted for nearly one-fifth of all male accidental deaths.

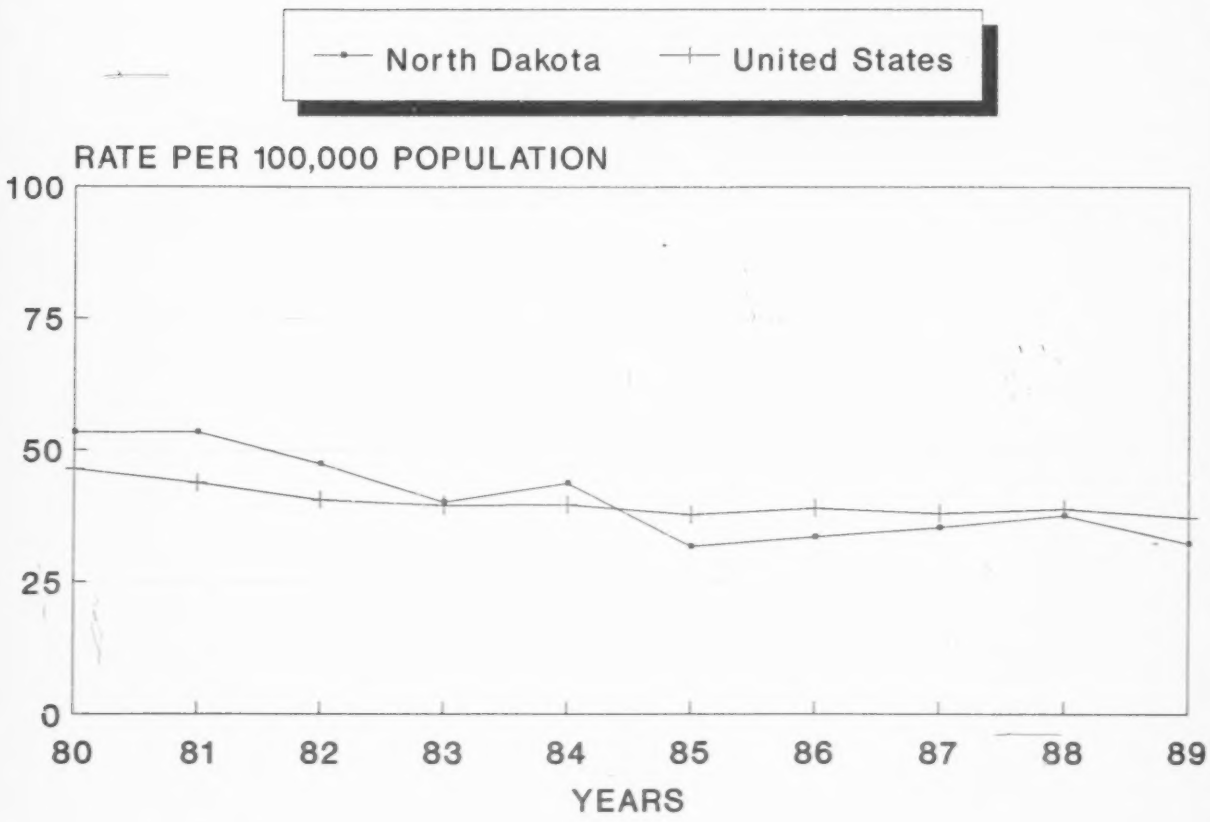
Generally, national and state accidental death rates fluctuated substantially during the 1980-1989 time period. In 1989 North Dakota's accidental death rate was slightly lower than the corresponding national rate (Figure 2.9).

Table 2.8
Resident Deaths Due to Accidents
by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	2	1	1	--	1	1	--
1-4 Years	6	4	2	3	1	1	1
5-14 Years	10	6	4	6	4	--	--
15-24 Years	32	28	4	24	4	4	--
25-34 Years	24	16	8	13	7	3	1
35-44 Years	24	20	4	18	4	2	--
45-54 Years	22	16	6	13	5	3	1
55-64 Years	19	15	4	13	4	2(1)	--
65-74 Years	23	15	8	14	8	1	--
75-84 Years	31	23	8	22	8	1	--
85+ Years	20	8	12	8	12	--	--
Total	213	152	61	134	58	18	3

(1) Includes One "Other" Race Male

Figure 2.9
Resident Accident Death Rates
North Dakota and United States
1980-1989



Chronic Obstructive Pulmonary Disease

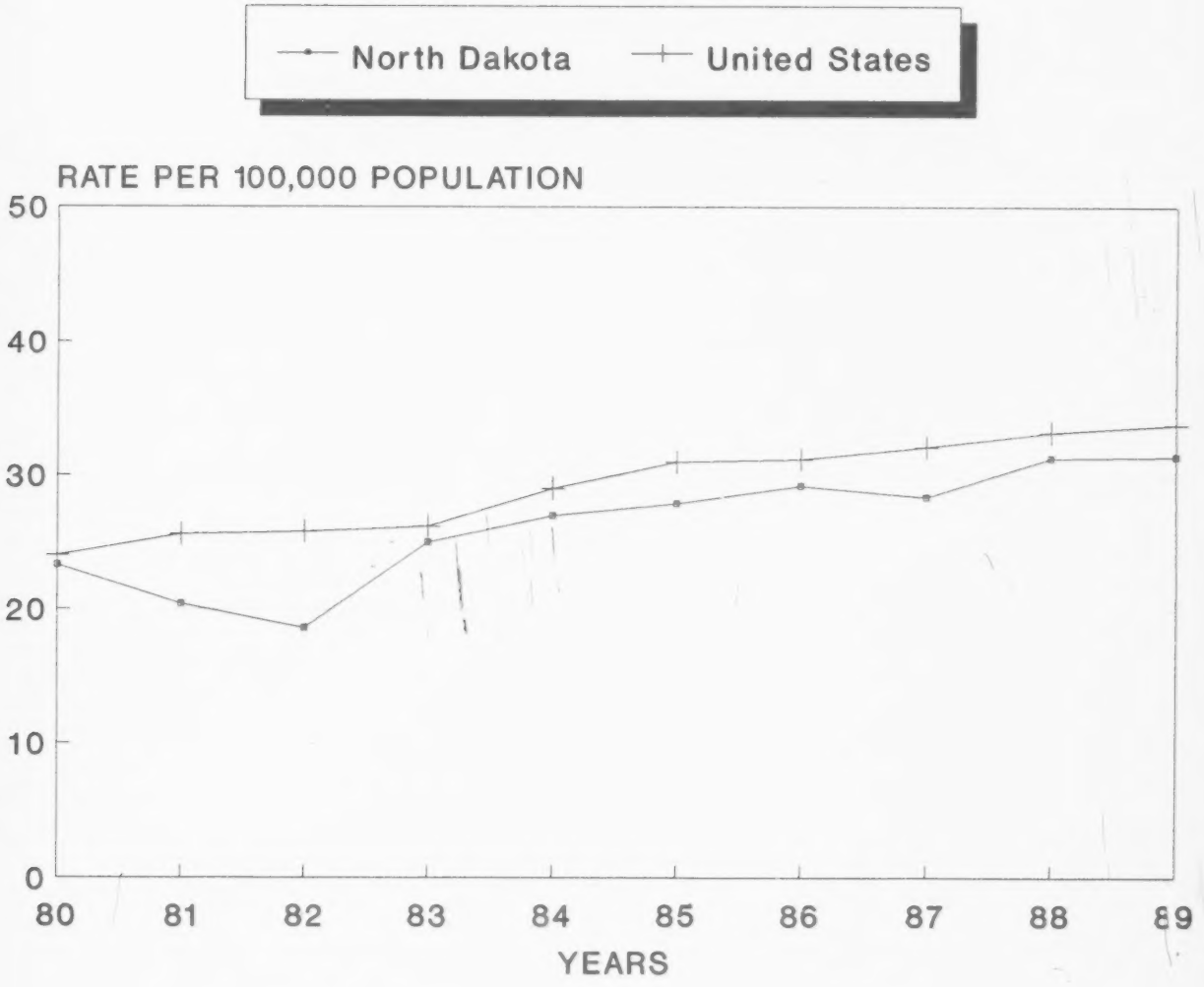
In 1989, 207 North Dakota residents died from chronic obstructive pulmonary disease (COPD). Almost three-fourths of all COPD deaths were male. Substantial death differentials, regarding gender, were noted in nearly all age groupings.

During the 1980-1989 time period COPD death rates, both nationally and statewide, increased sharply. Generally, North Dakota rates have been lower than corresponding national COPD death rates (Figure 2.10).

Table 2.9
Resident Deaths Due to Chronic Obstructive Pulmonary Diseases and Allied Conditions by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	--	--	--	--	--	--	--
15-24 Years	1	1	--	1	--	--	--
25-34 Years	--	--	--	--	--	--	--
35-44 Years	--	--	--	--	--	--	--
45-54 Years	8	7	1	7	1	--	--
55-64 Years	17	10	7	10	6	--	1
65-74 Years	52	43	9	42	9	1	--
75-84 Years	79	54	25	54	25	--	--
85+ Years	50	35	15	34	15	1	--
Total	207	150	57	148	56	2	1

Figure 2.10
Resident Chronic Obstructive Pulmonary Disease Death Rates
North Dakota and United States
1980-1989



Influenza and Pneumonia

Nearly four percent of North Dakota resident deaths in 1989 was due to influenza and pneumonia. There were a total of 193 deaths of which 97 were male and 96 were female.

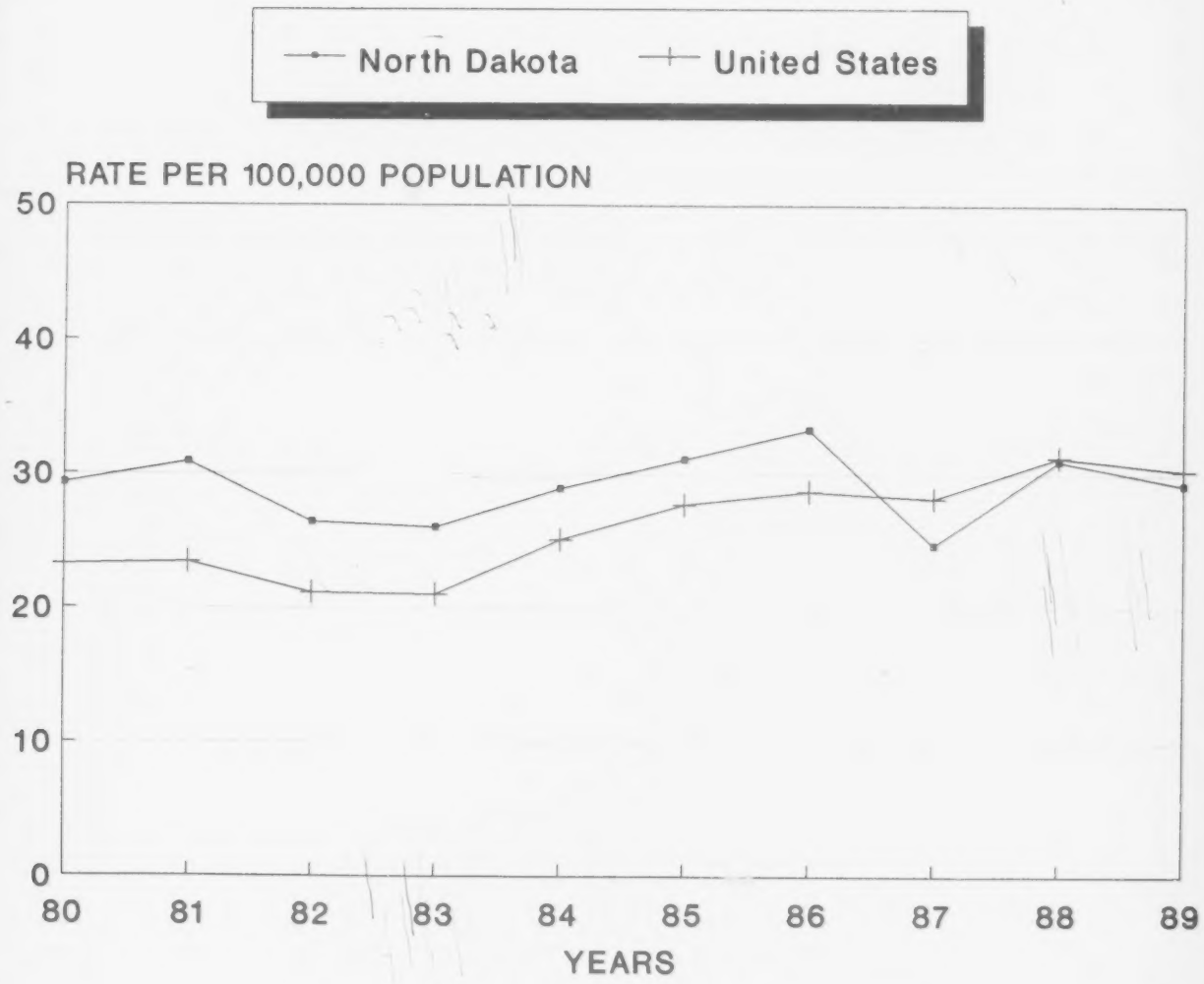
Since 1980 national and state influenza and pneumonia death rates have been erratic. In 1989 North Dakota reported a rate of 29.2, while a rate of 30.3 was recorded nationally (Figure 2.11).

Table 2.10
Resident Deaths Due to Influenza
and Pneumonia by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	--	--	--	--	--	--	--
15-24 Years	--	--	--	--	--	--	--
25-34 Years	1	--	1	--	1	--	--
35-44 Years	3	2	1	2	1	--	--
45-54 Years	--	--	--	--	--	--	--
55-64 Years	4	3	1	3	1	--	--
65-74 Years	20	11	9	10	8	1(1)	1
75-84 Years	66	37	29	37	29	--	--
85+ Years	99	44	55	44	55	--	--
Total	193	97	96	96	95	1	1

(1) Includes One "Other" Race Male

Figure 2.11
Resident Influenza and Pneumonia Death Rates
North Dakota and United States
1980-1989



Diabetes

In 1989 diabetes mellitus was the cause of death for 144 North Dakota residents. Of those deaths, 68 were male while 76 were female.

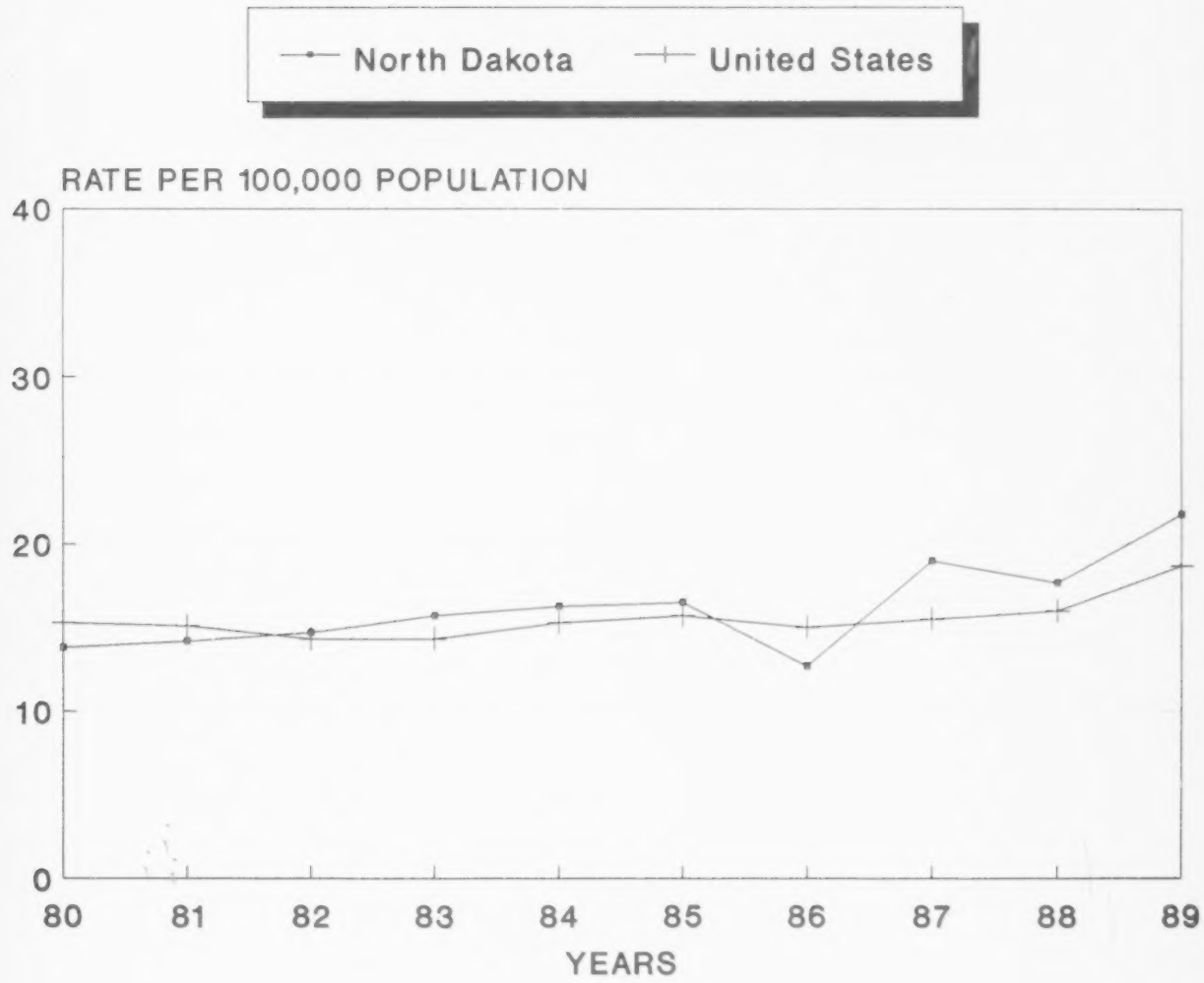
Diabetes deaths were more prevalent in the older age groups, with more than 77 percent of the state's resident diabetes deaths aged 65 and older.

During the 1980-1989 time period the diabetes death rates fluctuated both nationally and within North Dakota. In 1989 North Dakota reported a rate of 21.8, while a rate of 18.7 was experienced nationally (Figure 2.12).

Table 2.11
Resident Deaths Due to Diabetes
by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	--	--	--	--	--	--	--
15-24 Years	--	--	--	--	--	--	--
25-34 Years	2	1	1	1	1	--	--
35-44 Years	6	4	2	4	2	--	--
45-54 Years	12	7	5	4	5	3	--
55-64 Years	13	6	7	4	4	2	3
65-74 Years	22	10	12	10	11	--	1
75-84 Years	58	30	28	29	28	1	--
85+ Years	31	10	21	10	21	--	--
Total	144	68	76	62	72	6	4

Figure 2.12
Resident Diabetes Death Rates
North Dakota and United States
1980-1989



Atherosclerosis

A total of 94 North Dakota resident deaths were attributed to atherosclerosis in 1989, of which 47 were male and 47 female.

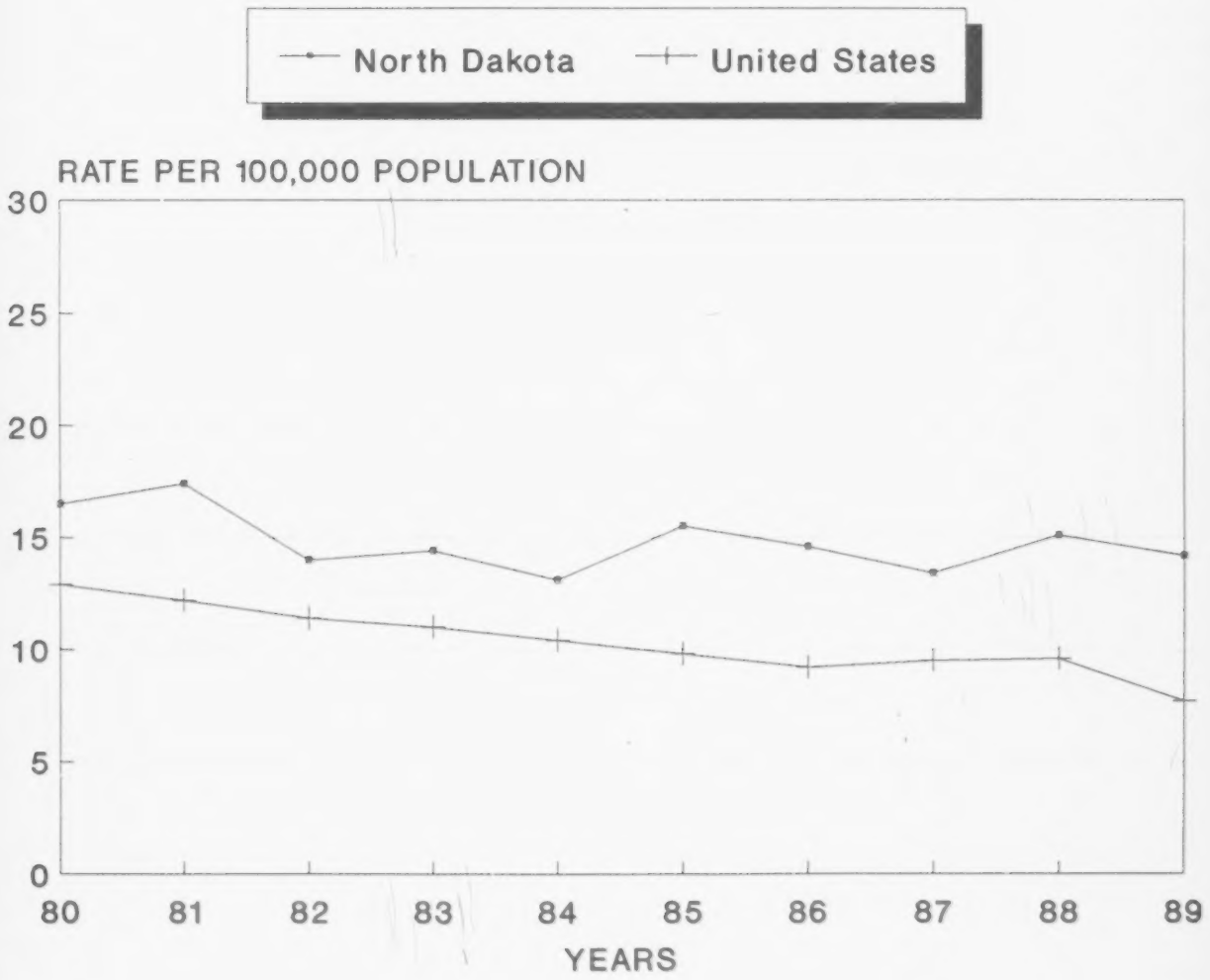
A majority (88.3 percent) of the atherosclerosis deaths occurred at ages 75 and older (Table 2.12).

Although both state and national atherosclerosis death rates have declined slightly since 1980, generally state rates have been higher than corresponding national atherosclerosis rates (Figure 2.13).

Table 2.12
Resident Deaths Due to Atherosclerosis
by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	--	--	--	--	--	--	--
15-24 Years	--	--	--	--	--	--	--
25-34 Years	--	--	--	--	--	--	--
35-44 Years	--	--	--	--	--	--	--
45-54 Years	--	--	--	--	--	--	--
55-64 Years	1	1	--	1	--	--	--
65-74 Years	10	5	5	5	4	--	1
75-84 Years	21	12	9	12	9	--	--
85+ Years	62	29	33	29	33	--	--
Total	94	47	47	47	46	--	1

Figure 2.13
Resident Atherosclerosis Death Rates
North Dakota and United States
1980-1989



Other Diseases of the Arteries

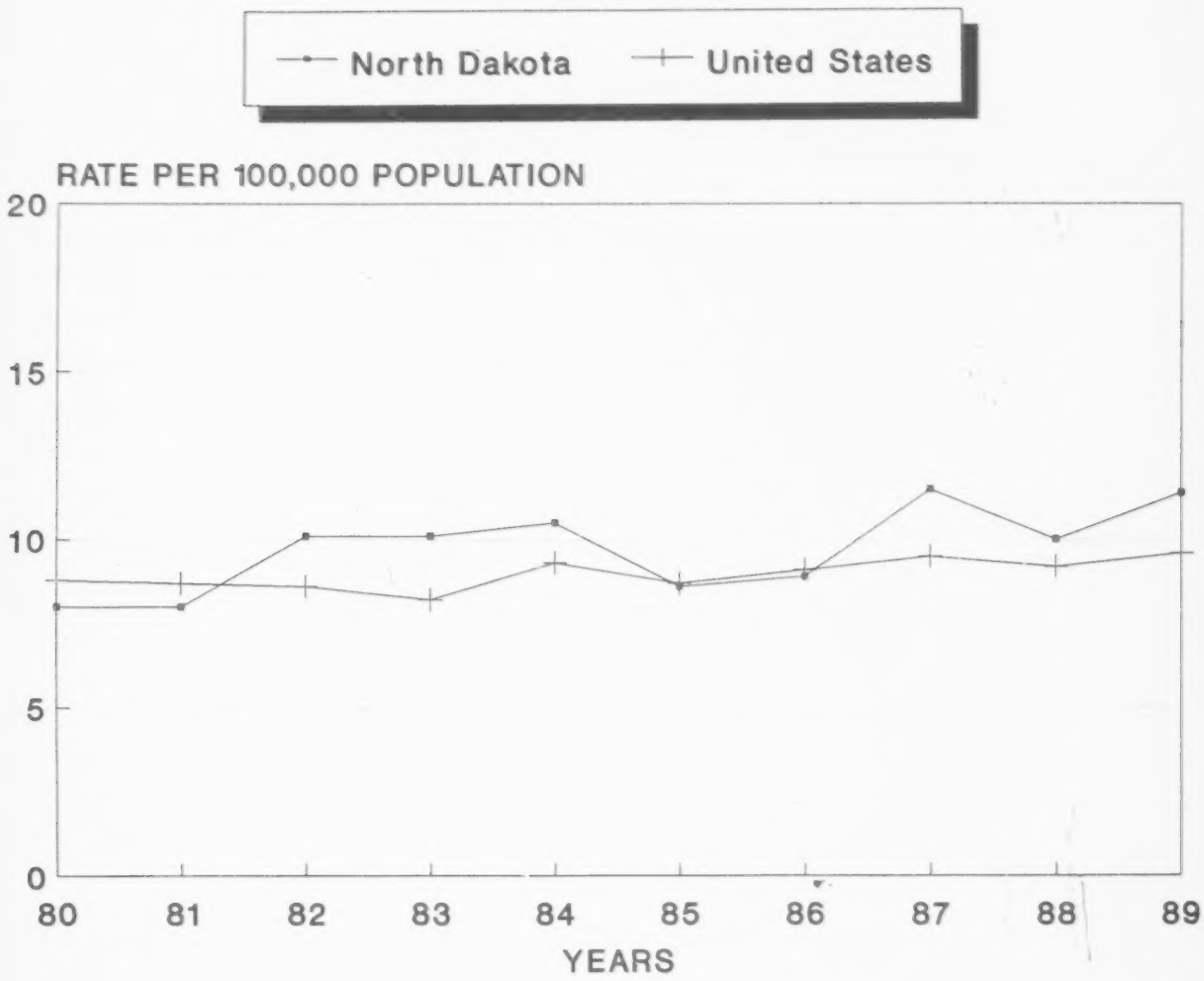
Deaths due to other diseases of the arteries numbered 75 among North Dakota residents. Of these deaths, 48 were male while 27 were female.

Although state and national death rate trends have been similar, North Dakota's rate has been generally higher than the corresponding national rate (Figure 2.14).

Table 2.13
Resident Deaths Due to Other Diseases of the Arteries
by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	--	--	--	--	--	--	--
15-24 Years	--	--	--	--	--	--	--
25-34 Years	--	--	--	--	--	--	--
35-44 Years	--	--	--	--	--	--	--
45-54 Years	--	--	--	--	--	--	--
55-64 Years	3	2	1	2	1	--	--
65-74 Years	15	12	3	12	3	--	--
75-84 Years	36	23	13	21	13	2	--
85+ Years	21	11	10	10	10	1	--
Total	75	48	27	45	27	3	--

Figure 2.14
Resident Other Diseases of the Arteries Death Rates
North Dakota and United States
1980-1989



Suicide

There were a total of 72 suicides in 1989, making suicide the tenth leading cause of death for North Dakota residents.

The number of male suicide deaths in 1989 was over nine times that of corresponding female deaths. In nearly all age cohorts male suicides were substantially larger than corresponding female suicides (Table 2.14).

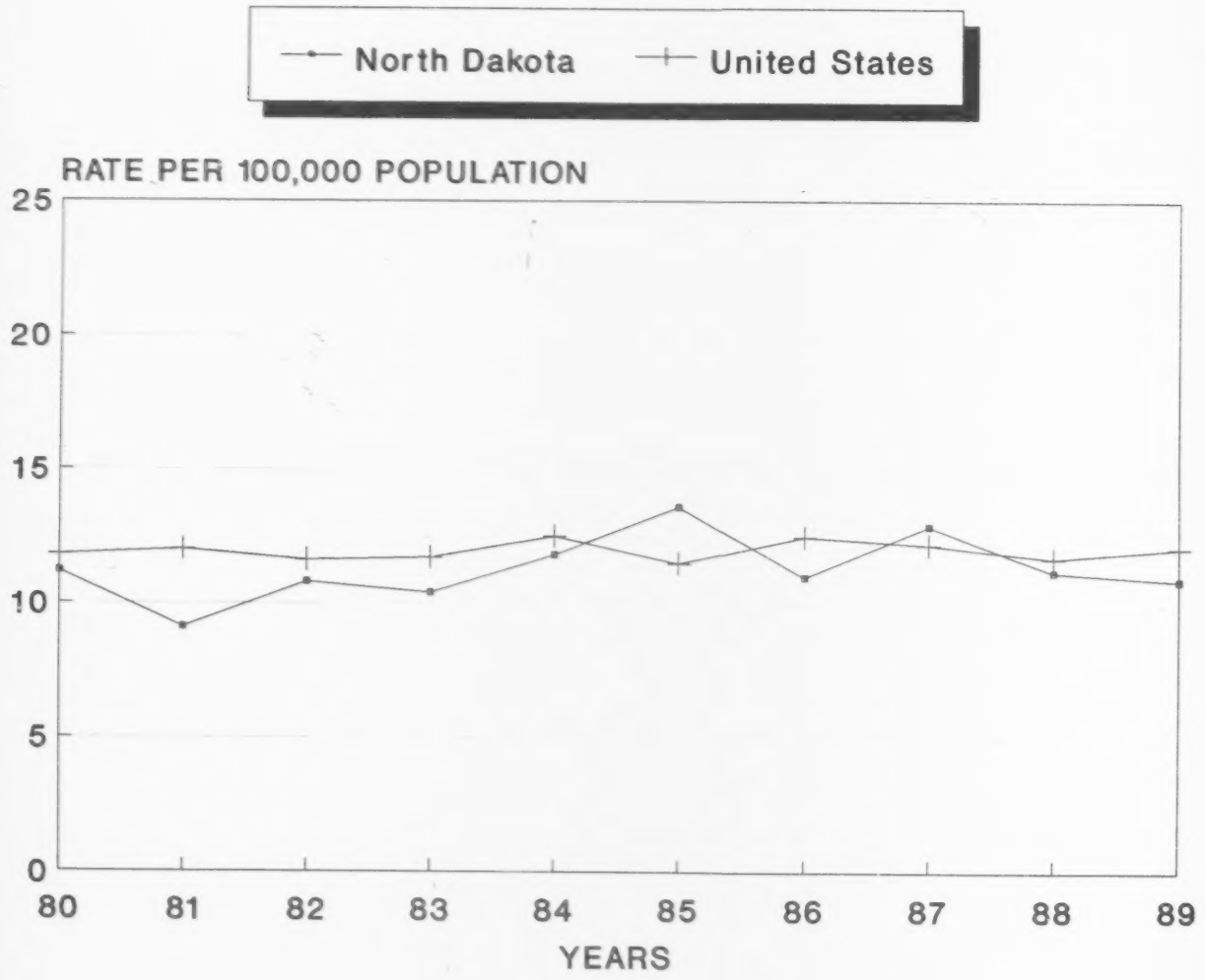
Generally, both state and national suicide death rates fluctuated considerably during the 1980-1989 time period. Although no clear-cut trend regarding suicide death rates has been formulated, national suicide death rates have generally been higher than corresponding state rates. In 1989 the state rate was 10.9 compared with 12.1 reported nationwide (Figure 2.15).

Table 2.14
Resident Deaths Due to Suicide
by Age, Race, and Sex
North Dakota, 1989

Age	All Races			White		Native American	
	Total	Male	Female	Male	Female	Male	Female
Under 1 Year	--	--	--	--	--	--	--
1-4 Years	--	--	--	--	--	--	--
5-14 Years	1	1	--	1	--	--	--
15-24 Years	16	14	2	10	2	4	--
25-34 Years	13	10	3	9	3	1	--
35-44 Years	5	5	--	4	--	1	--
45-54 Years	5	4	1	3	1	1(1)	--
55-64 Years	14	14	--	14	--	--	--
65-74 Years	11	11	--	11	--	--	--
75-84 Years	6	6	--	6	--	--	--
85+ Years	1	--	1	--	1	--	--
Total	72	65	7	58	7	7	--

(1) Includes One "Other" Race Male

Figure 2.15
Resident Suicide Death Rates
North Dakota and United States
1980-1989



Infant Deaths

Of the 5,494 deaths to North Dakota residents in 1989, 77 occurred to individuals less than one year of age (Figure 2.16). Since 1960 the number of infant deaths within the state has declined 81.4 percent. The largest and smallest number of infant deaths were reported in 1960 and 1989, respectively. Nationally, the number of infant deaths estimated in 1989 was 38,900, 64.9 percent less than the 110,873 reported in 1960 (Table 2.15).

Since 1960 the rate of death for infants has also dropped considerably. In 1960 there were 24.8 North Dakota resident infant deaths per 1,000 live births, compared with 8.0 infant deaths per 1,000 live births experienced in 1989 (Figure 2.17).

In 1989 both infant death frequencies and rates were the lowest on North Dakota records.

Figure 2.16
Resident Infant Deaths
North Dakota, 1960-1989

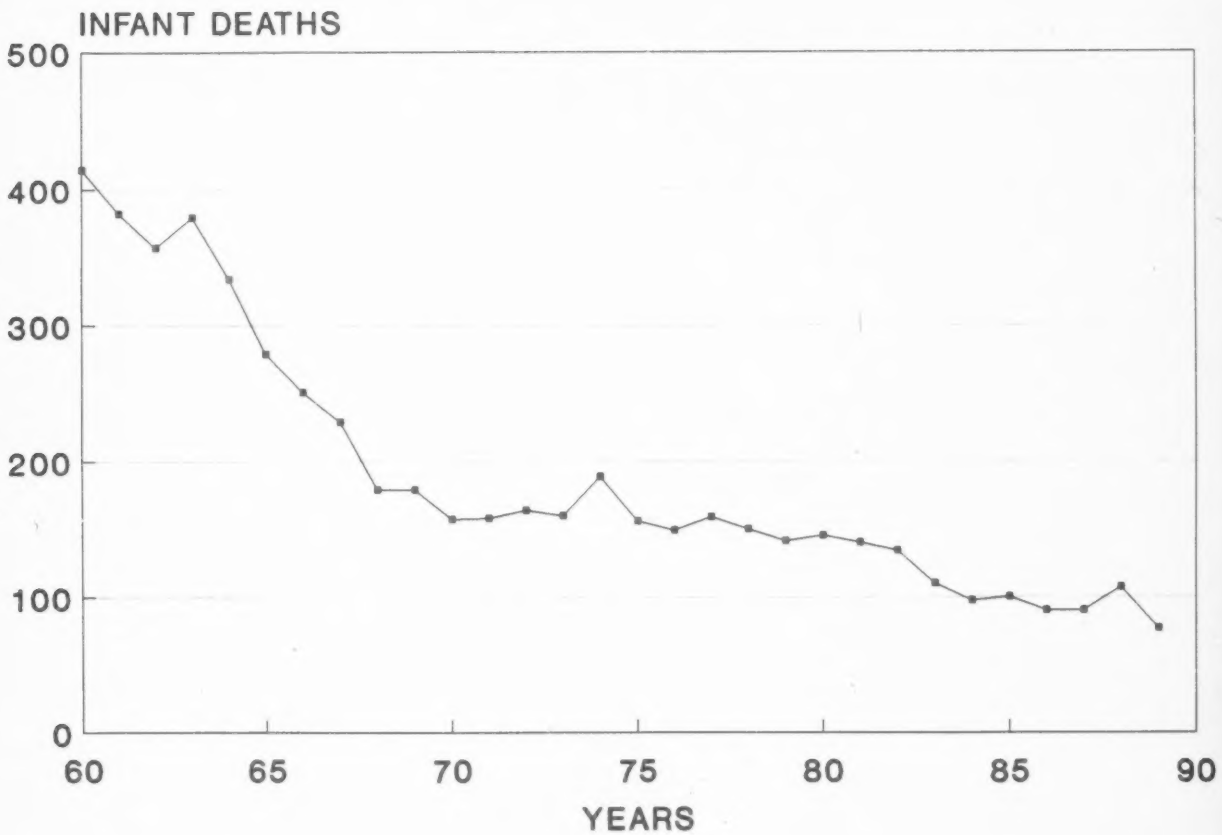
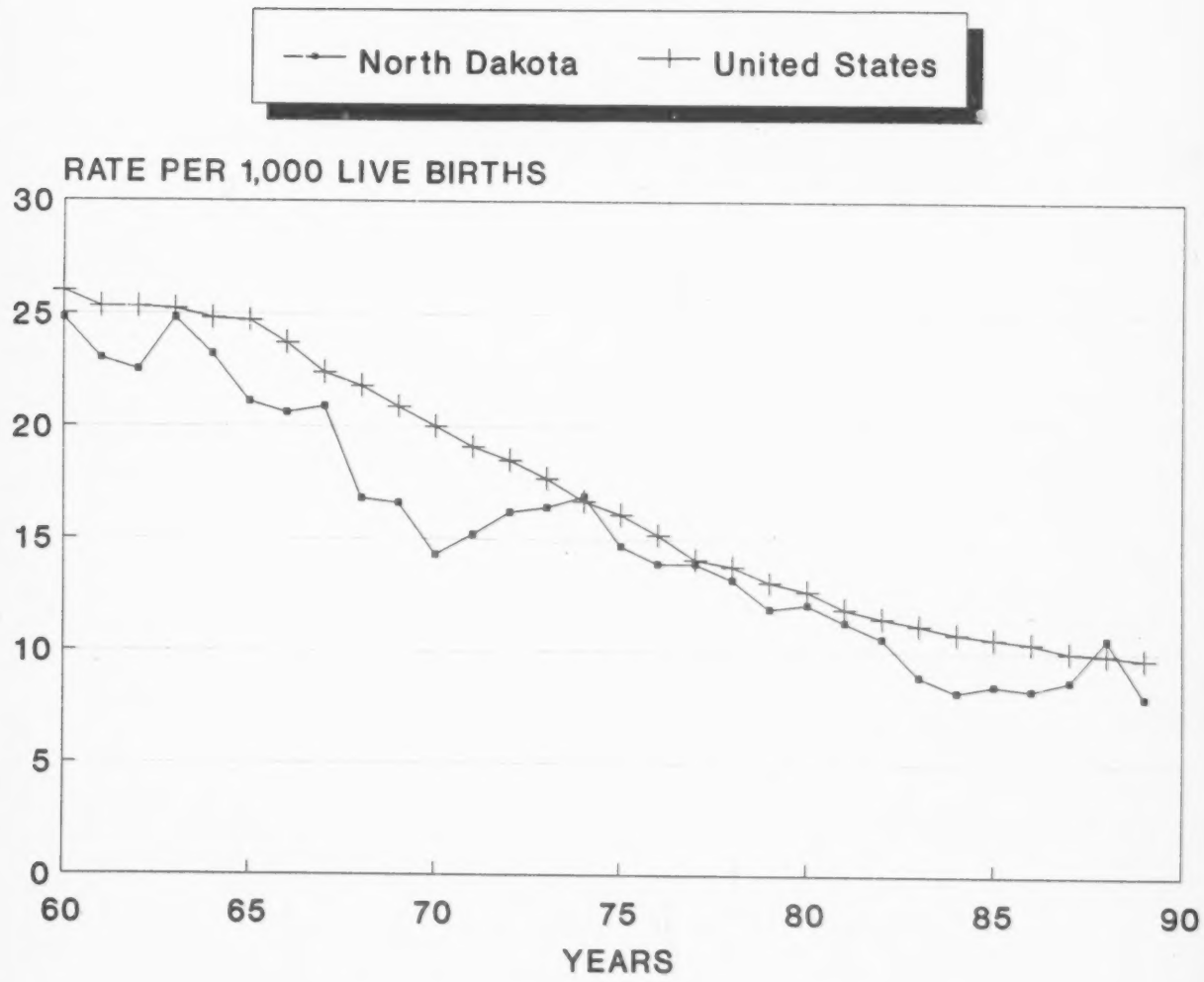


Table 2.15
Resident Infant Deaths and Infant Mortality Rates
North Dakota and United States
1960-1989

Year	United States		North Dakota	
	Infant Deaths	Infant Mortality Rate	Infant Deaths	Infant Mortality Rate
1960	110,873	26.0	414	24.8
1961	107,956	25.3	382	23.0
1962	105,479	25.3	357	22.5
1963	103,390	25.2	379	24.8
1964	99,783	24.8	334	23.2
1965	92,866	24.7	279	21.1
1966	85,516	23.7	251	20.6
1967	79,028	22.4	229	20.9
1968	76,263	21.8	179	16.8
1969	75,073	20.9	179	16.6
1970	74,667	20.0	157	14.3
1971	67,981	19.1	158	15.2
1972	60,182	18.5	164	16.2
1973	55,581	17.7	160	16.4
1974	52,776	16.7	169	16.9
1975	50,525	16.1	156	14.7
1976	48,265	15.2	149	13.9
1977	46,975	14.1	159	13.9
1978	45,945	13.8	150	13.2
1979	45,665	13.1	141	11.9
1980	45,526	12.7	145	12.1
1981	43,305	11.9	140	11.3
1982	42,401	11.5	134	10.6
1983	40,627	11.2	110	8.9
1984	39,580	10.8	97	8.2
1985	40,030	10.6	100	8.5
1986	38,891	10.4	90	8.3
1987	38,380(1)	10.0	90	8.7
1988	38,700(1)	9.9	107	10.6
1989	38,900(1)	9.7	77	8.0

(1) U.S. Estimate

Figure 2.17
Resident Infant Death Rates
North Dakota and United States
1960-1989



During the period 1960-1989, North Dakota's infant death rates were generally below the corresponding national rate. In 1989 the national infant mortality rate was estimated at 9.7, slightly higher than the 8.0 experienced in North Dakota.

Approximately 58 percent of all infant deaths occurred within the first month of life in 1989, with about 45 percent in the first week. These proportions were 63.4 and 49.0 in 1980, respectively (Table 2.16). Figure 2.18 portrays infant death rates at age of death.

Infant mortality rates have historically been shown to vary with age of the mother and the race of the child. Infant mortality rates by age of mother and race of child are provided in Figure 2.19 and Table 2.17. These data are obtained from a file of merged live births and infant death information.

Table 2.16
Resident Infant Deaths and
Mortality Rates by Infant's Age at Death
North Dakota, 1980-1989

Year	Total Infant Deaths		Age at Death							
			Under 1 Day		1-6 Days		7-27 Days		28 Days-1 Year	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate	Number	Rate
1980	145	12.1	44	3.7	27	2.3	21	1.8	53	4.4
1981	140	11.3	37	3.0	28	2.3	23	1.9	52	4.2
1982	134	10.6	50	4.0	24	1.9	12	0.9	48	3.8
1983	110	8.9	42	3.4	25	2.0	9	0.7	34	2.7
1984	97	8.2	30	2.5	13	1.1	11	0.9	43	3.6
1985	100	8.5	33	2.8	16	1.4	14	1.2	37	3.2
1986	90	8.3	32	3.0	6	0.6	5	0.5	47	4.3
1987	90	8.7	32	3.1	13	1.3	5	0.5	40	3.9
1988	107	10.6	23	2.3	19	1.9	16	1.6	49	4.8
1989	77	8.0	27	2.8	8	0.8	10	1.0	32	3.3

Figure 2.18
Resident Infant Death Rates by Age at Death
North Dakota, 1980-1989

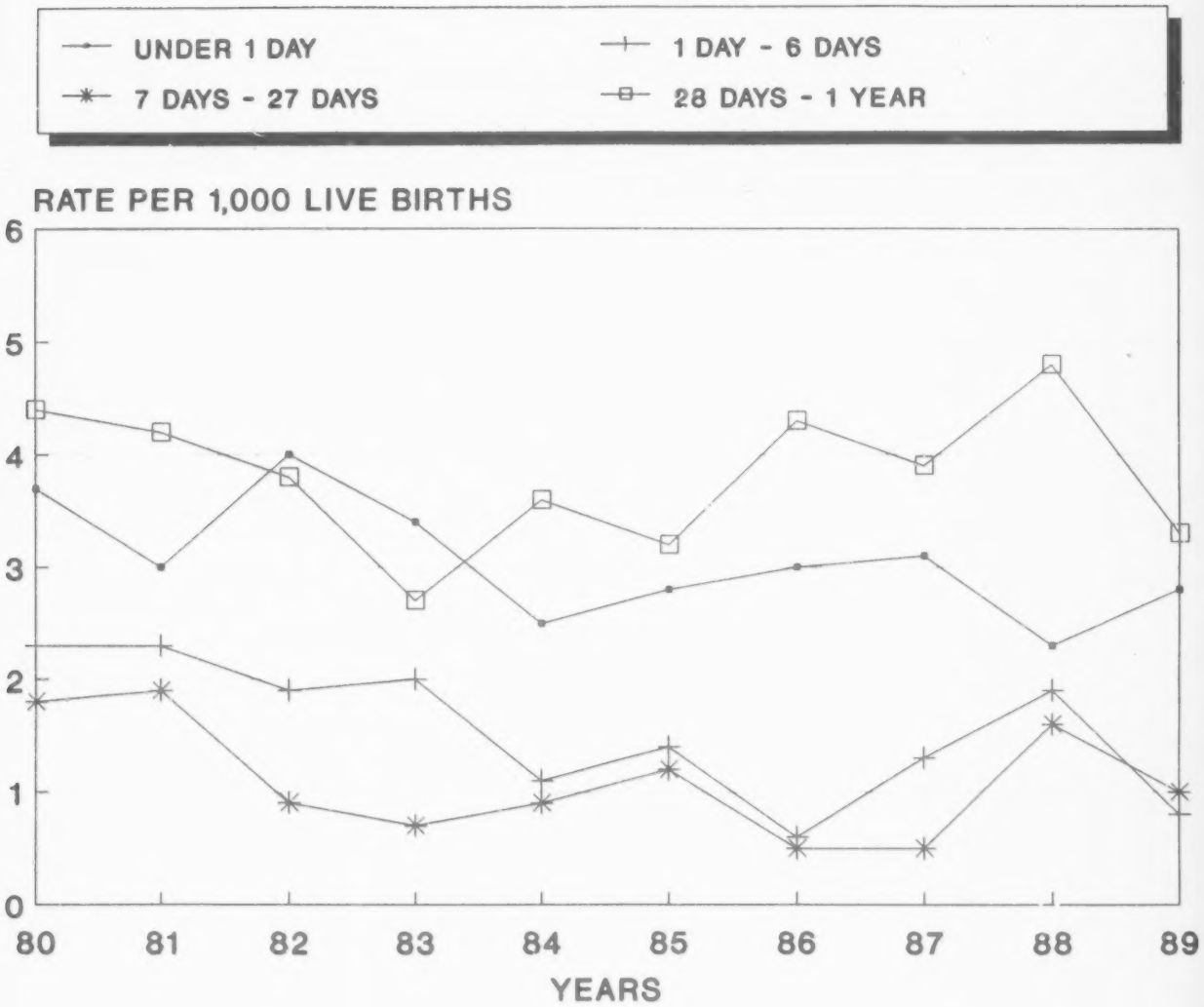


Figure 2.19
Resident Infant Death Rates by Age of Mother
North Dakota, 1989

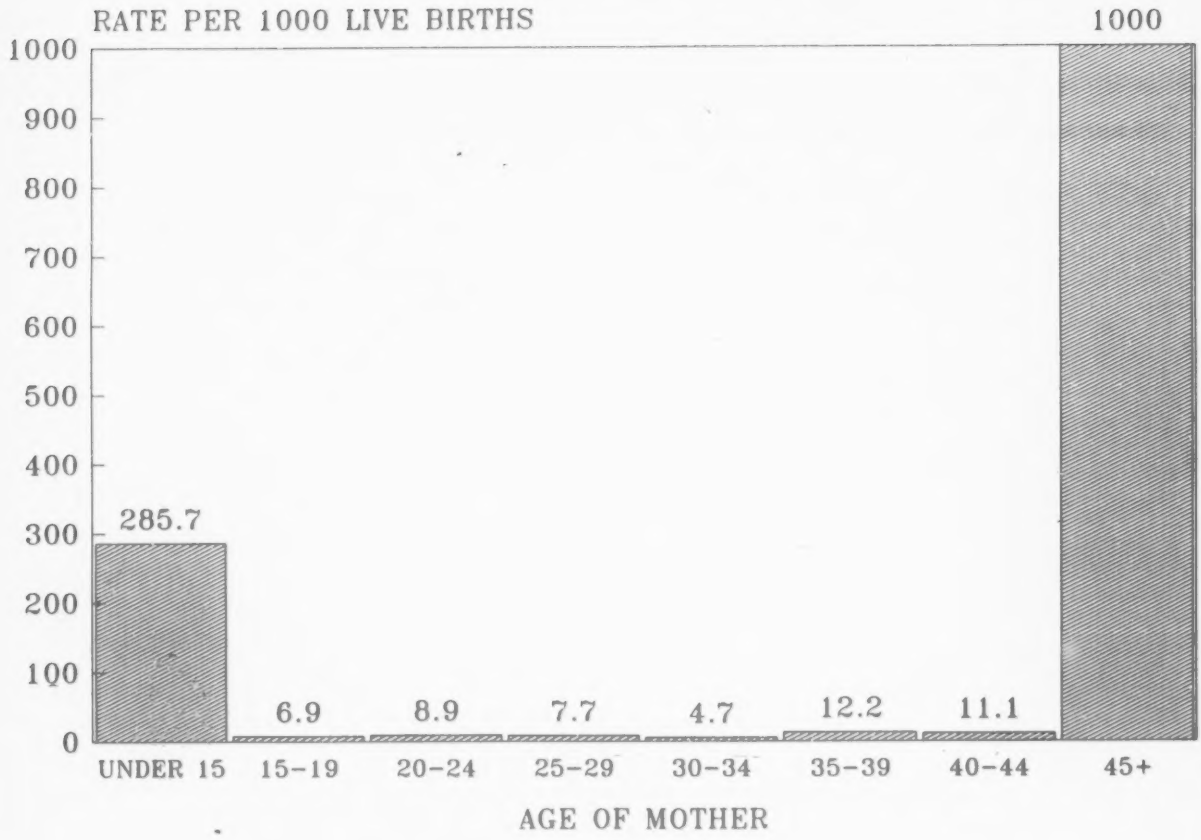


Table 2.17
Resident Infant Deaths and Infant Death Rates
by Age of Mother and Race of Infant
North Dakota, 1989

Age of Mother	Race of Infant							
	All Races		White		Native American		Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Under 15 Years	2	285.7	--	--	2	500.0	--	--
15-19 Years	5	6.9	1	1.9	3	16.0	1	71.4
20-24 Years	22	8.9	17	8.4	5	13.2	--	--
25-29 Years	27	7.7	24	7.6	3	10.3	--	--
30-34 Years	10	4.7	10	5.2	--	--	--	--
35-39 Years	8	12.2	7	11.6	1	23.3	--	--
40-44 Years	1	11.1	1	11.8	--	--	--	--
45 Years and Over	1	1000.0	1	1000.0	--	--	--	--
Not Stated	1	--	1	--	--	--	--	--
Total	77	8.0	62	7.5	14	13.2	1	5.1

Infant death rates displayed somewhat of a parabolic relationship with mother's age. These rates were higher for infants born to younger and older mothers. In addition, Native American infants had higher infant mortality rates than those of white infants.

Table 2.18 and Figure 2.20 show the variation in infant death rates according to number of prenatal visits. The highest infant death rates were to mothers having 1-4 prenatal visits (29.0).

Table 2.19 and Figure 2.21 depict infant death rates as they relate to trimester prenatal care began.

The majority of infant deaths were attributable to four major causes: "congenital anomalies" (29 deaths), "SIDS" (10 deaths), "respiratory distress syndrome" (6 deaths), and "other respiratory conditions" (6 deaths) (Table 2.20 and Figure 2.22).

Table 2.18
Resident Infant Deaths and Infant Death Rates
by Prenatal Visits and Race of Mother
North Dakota, 1989

Number of Prenatal Visits	Race of Mother							
	All Races		White		Native American		Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
None	1	14.9	1	20.4	--	--	--	--
1-4	11	29.0	7	30.6	4	27.8	--	--
5-9	26	7.9	21	7.3	5	13.4	--	--
10-14	31	6.2	27	5.9	3	10.1	1	9.7
15-19	2	3.0	2	3.3	--	--	--	--
20+	2	20.4	2	23.0	--	--	--	--
Not Stated	4	--	2	--	2	--	--	--
Total	77	8.0	62	7.3	14	15.5	1	6.2

Table 2.19
Resident Infant Deaths and Infant Death Rates
by Trimester Prenatal Care Began and Race of Mother
North Dakota Infants, 1989

Trimester Prenatal Care Began	Race of Mother							
	All Races		White		Native American		Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
None	1	14.9	1	20.4	--	--	--	--
First	45	5.8	43	6.1	2	3.6	--	--
Second	21	15.8	12	11.0	8	37.6	1	38.5
Third	2	8.2	1	6.6	1	11.6	--	--
Not Stated	8	--	5	--	3	--	--	--
Total	77	8.0	62	7.3	14	15.5	1	6.2

Figure 2.20
Resident Infant Death Rates by Prenatal Visits
North Dakota, 1989

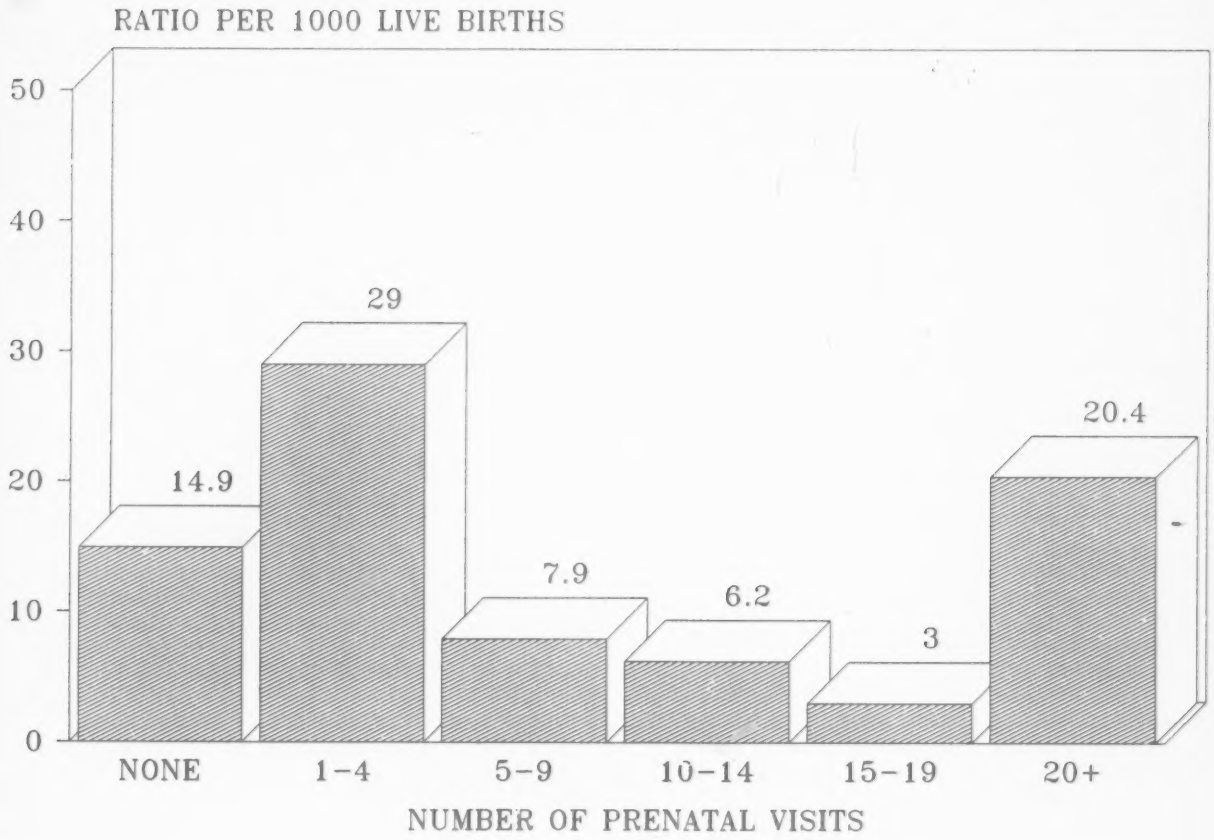


Figure 2.21
Resident Infant Death Rates
by Trimester Prenatal Care Began
North Dakota, 1989

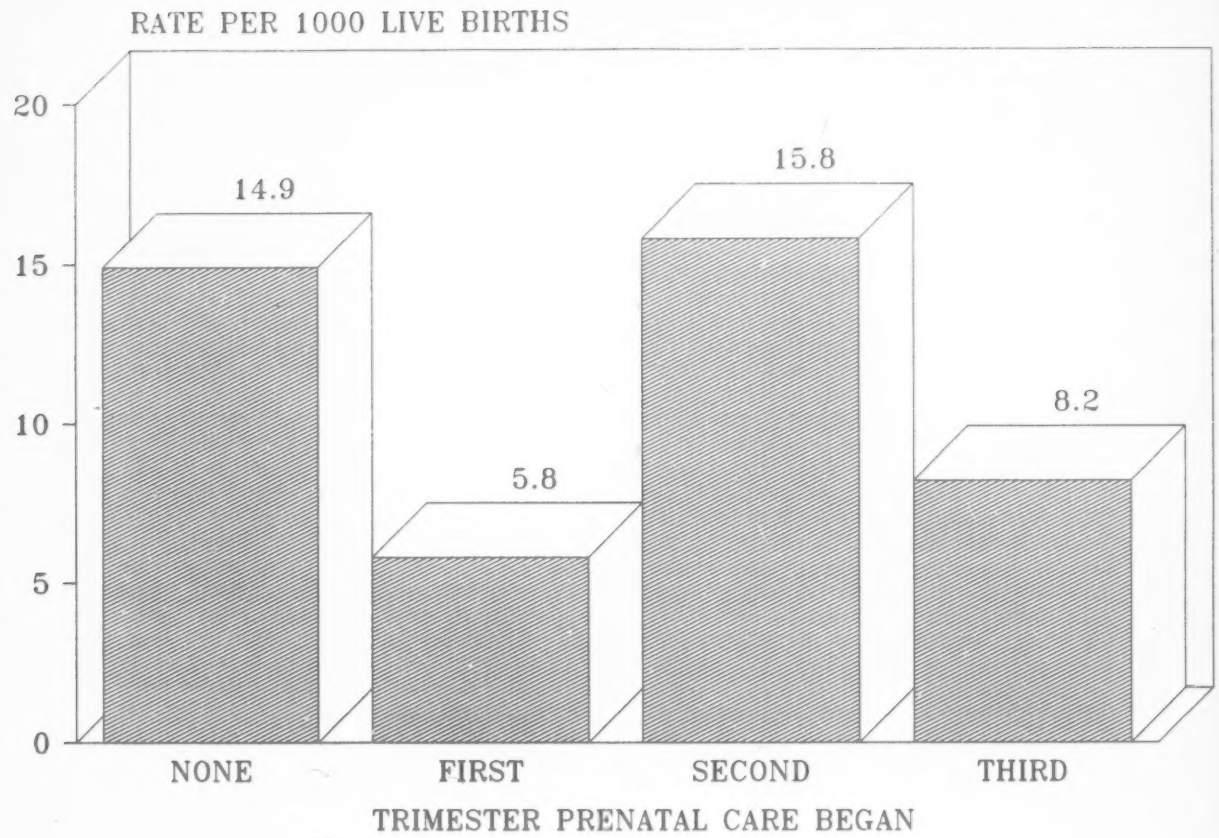
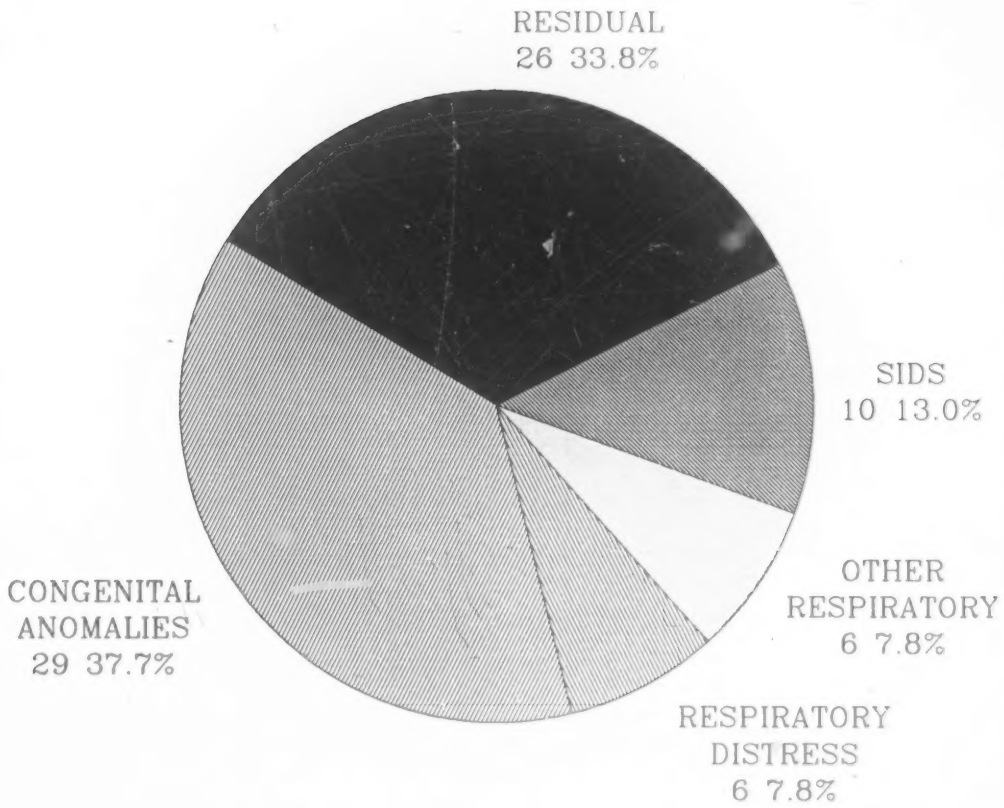


Table 2.20
Resident Infant Deaths by Cause of Death
North Dakota, 1989

ICDA Code	Cause of Death	Frequency
079	Viral Infection in Conditions Classified Elsewhere and of Unspecified Site	1
110-118	Mycoses	1
250-259	Diseases of Other Endocrine Glands	1
270-279	Other Metabolic and Immunity Disorders	2
330-337	Hereditary and Degenerative Diseases of the Central Nervous System	1
340-349	Other Disorders of the Central Nervous System	1
427	Cardiac Dysrhythmias	3
584	Acute Renal Failure	1
590	Infections of Kidney	1
740-759	Congenital Anomalies	29
760	Fetus or Newborn Affected by Maternal Conditions Which May Be Unrelated to Present Pregnancy	1
761	Fetus or Newborn Affected by Maternal Complications of Pregnancy	3
765	Disorders Relating to Short Gestation and Unspecified Low Birth Weight	4
767	Birth Trauma	1
769	Respiratory Distress Syndrome	6
770	Other Respiratory Conditions of Fetus or Newborn	6
771	Infections Specific to the Perinatal Period	2
779	Other Ill-Defined Conditions Originating in the Perinatal Period	1
798	Sudden Death, Cause Unknown	10
E910-E915	Accidents Caused by Submersion, Suffocation, and Foreign Bodies	1
E916-E928	Other Accidents	1
	Total	77

Figure 2.22
Resident Infant Deaths by Cause of Death
North Dakota, 1989



Fetal Deaths

In 1989, 57 resident fetal deaths were reported in North Dakota. The largest and smallest corresponding number of fetal deaths were experienced in 1961 and 1987, respectively (Figure 2.23 and Table 2.21).

Since 1960 the fetal death ratio, which relates fetal deaths to live births, has generally been declining both nationally and within North Dakota. The largest reported state ratio was 13.7 experienced in 1964, while the smallest corresponding ratio was 5.3 reported in 1985 and 1987 (Figure 2.24 and Table 2.21).

Figure 2.23
Resident Fetal Deaths
North Dakota, 1960-1989

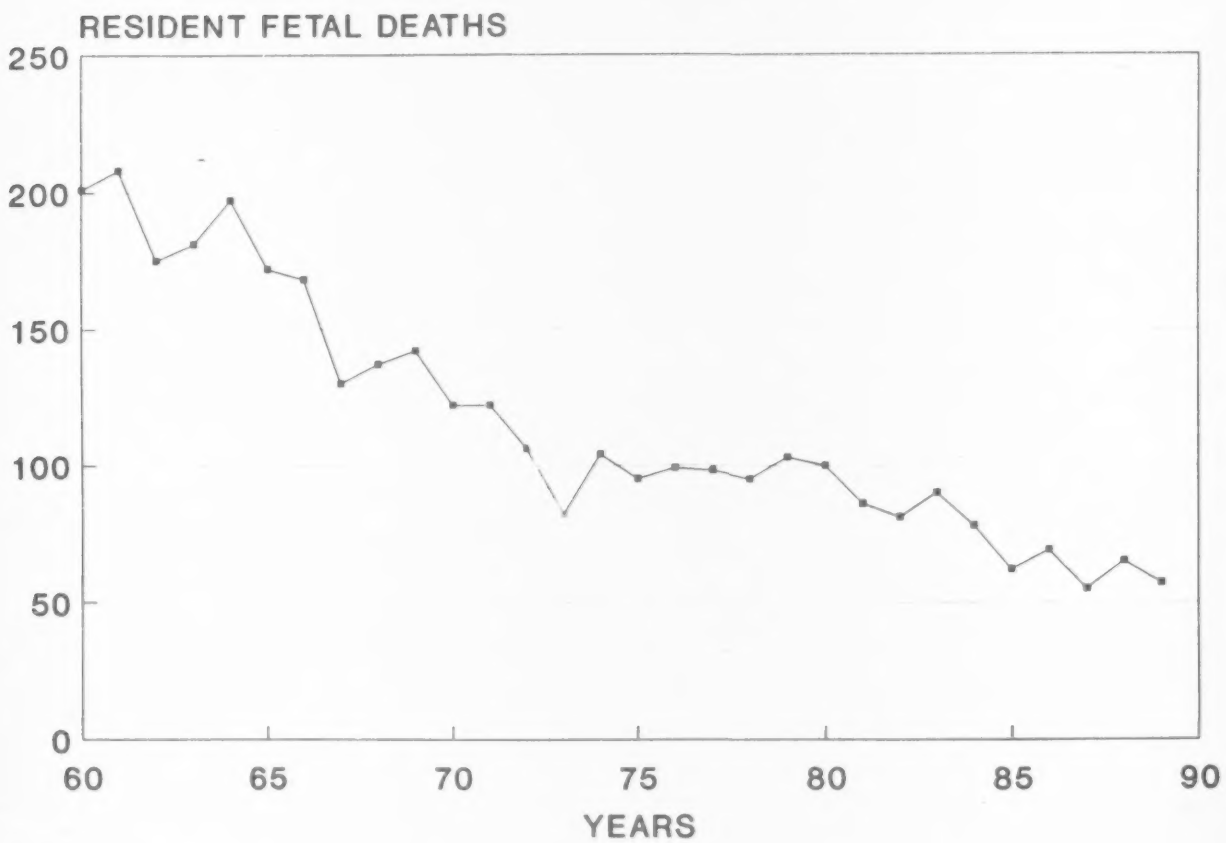
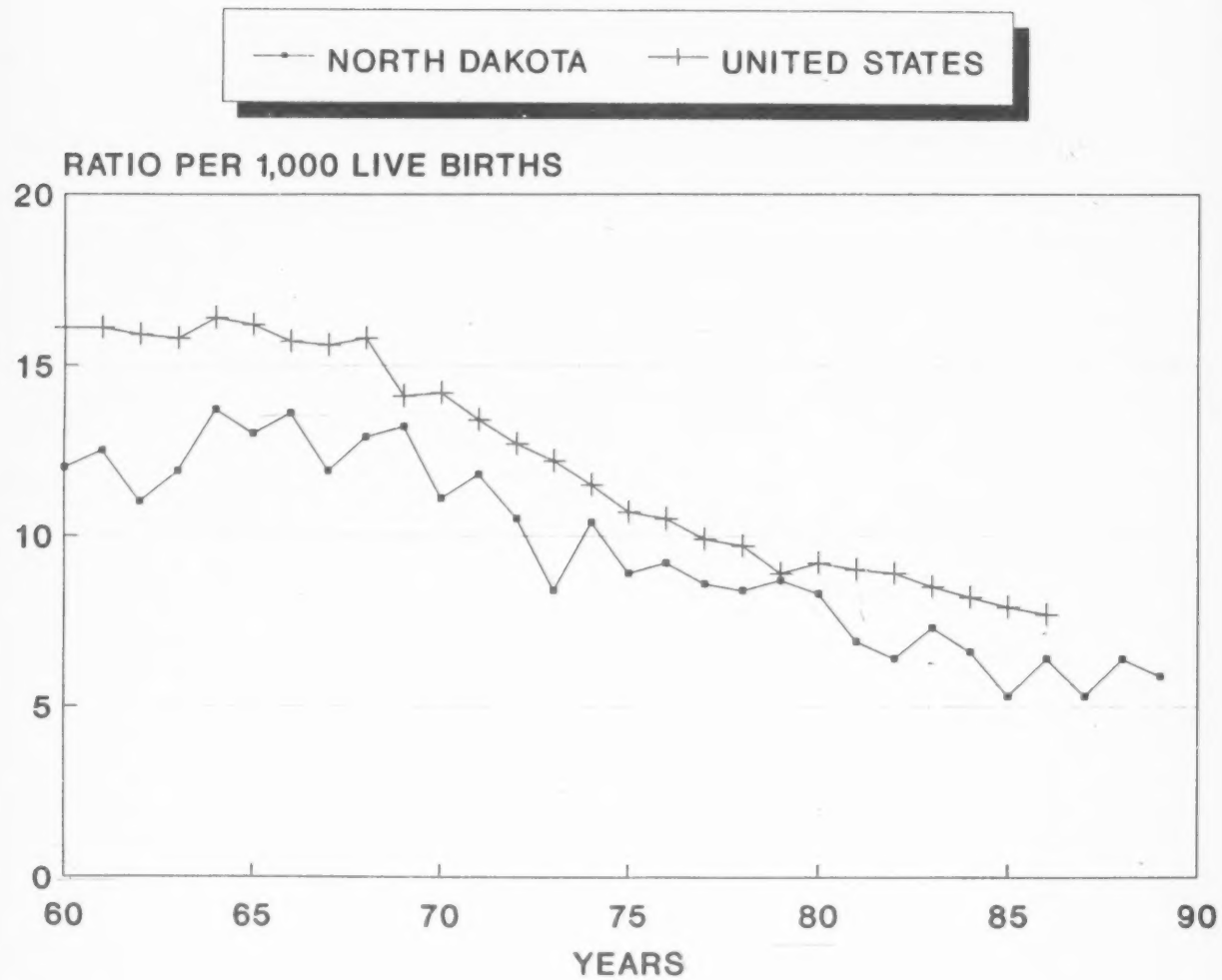


Table 2.21
Resident Fetal Deaths and Fetal Death Ratios
North Dakota and United States
1960-1989

Year	United States		North Dakota	
	Fetal Deaths	Fetal Death Ratio	Fetal Deaths	Fetal Death Ratio
1960	68,480	16.1	201	12.0
1961	68,767	16.1	208	12.5
1962	66,421	15.9	175	11.0
1963	64,640	15.8	181	11.9
1964	65,931	16.4	197	13.7
1965	60,859	16.2	172	13.0
1966	56,637	15.7	168	13.6
1967	54,934	15.6	130	11.9
1968	55,293	15.8	137	12.9
1969	50,749	14.1	142	13.2
1970	52,961	14.2	122	11.1
1971	47,818	13.4	122	11.8
1972	41,380	12.7	106	10.5
1973	38,309	12.2	82	8.4
1974	36,281	11.5	104	10.4
1975	33,796	10.7	95	8.9
1976	33,111	10.5	99	9.2
1977	33,053	9.9	98	8.6
1978	32,301	9.7	95	8.4
1979	30,969	8.9	103	8.7
1980	33,353	9.2	100	8.3
1981	32,596	9.0	86	6.9
1982	32,694	8.9	81	6.4
1983	30,752	8.5	90	7.3
1984	30,099	8.2	78	6.6
1985	29,661	7.9	62	5.3
1986	28,972	7.7	69	6.4
1987	--(1)	--	55	5.3
1988	--(1)	--	65	6.4
1989	--(1)	--	57	5.9

(1) Not Available

Figure 2.24
Resident Fetal Death Ratios
North Dakota and United States
1960-1989



Causes of Fetal Deaths

A classification of fetal deaths by underlying cause is contained in Table 2.22. Due to a relatively large number of deaths allocated to "other and ill-defined conditions" (22.8 percent), caution should be used when attempting to draw specific inferences regarding cause of death.

In 1989 two-fifths of the fetal deaths were attributed to one general condition, "complications of the placenta, cord, and membranes" (23 fetal deaths).

Table 2.22
Resident Fetal Deaths by Cause of Death
North Dakota, 1989

ICD Code	Cause of Death	Frequency
740	Anencephalus and Similar Anomalies	1
742	Other Congenital Anomalies of Nervous System	4
745	Bulbus Cordis Anomalies and Anomalies of Cardiac Septal Closure	1
747	Other Congenital Anomalies of Circulatory System	1
756	Other Congenital Musculoskeletal Anomalies	1
758	Chromosomal Anomalies	1
760	Fetus Affected by Maternal Conditions Which May be Unrelated to Present Pregnancy	3
762	Fetus Affected by Complications of Placenta, Cord, and Membranes	23
764	Slow Fetal Growth and Fetal Malnutrition	1
765	Disorders Relating to Short Gestation and Unspecified Low Birth Weight	4
768	Intrauterine Hypoxia and Birth Asphyxia	3
775	Endocrine and Metabolic Disturbances Specific to the Fetus and Newborn	1
779	Other and Ill-Defined Conditions Originating in the Perinatal Period	13
	Total	57

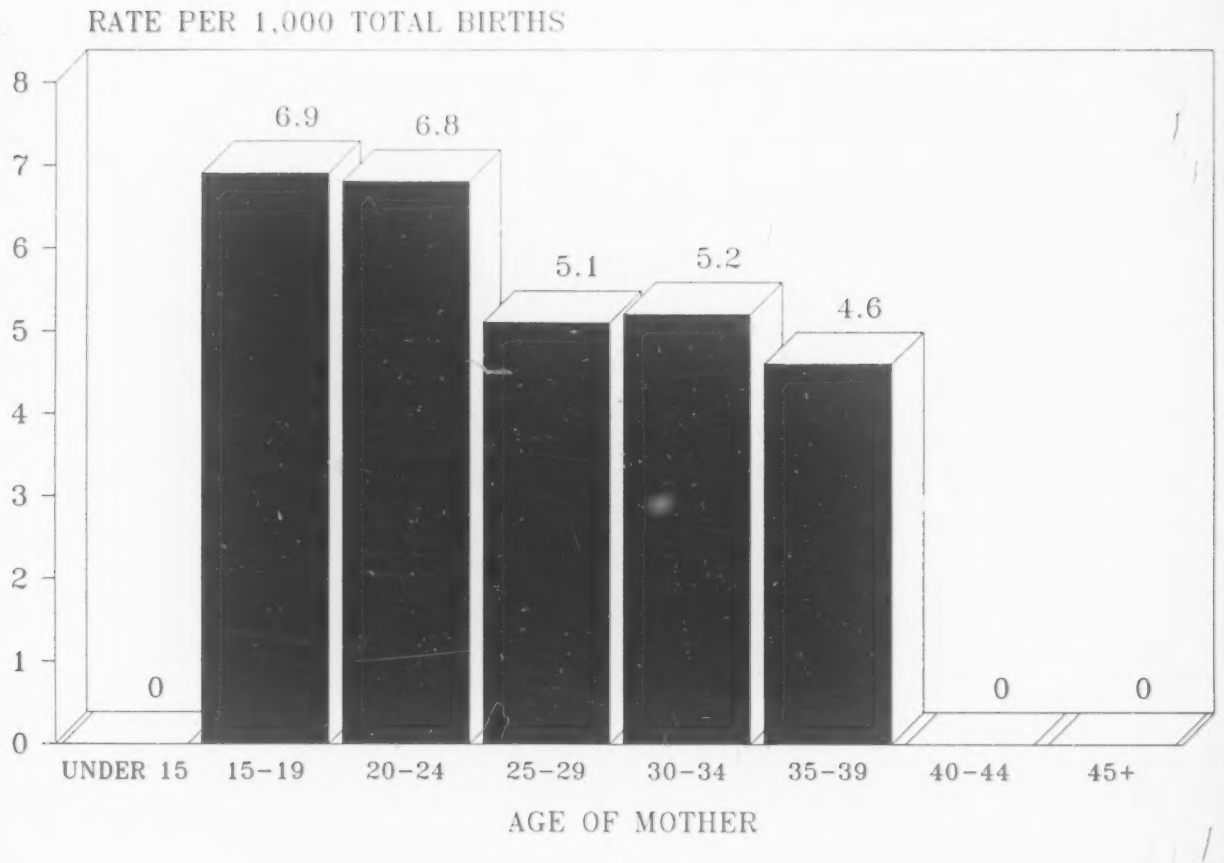
Age of Mother and Race of Fetus

The overall fetal death rate per 1,000 total births (live births plus fetal deaths) was 5.9 in 1989. The rates associated with white, Native American, and other races fetuses were 5.9, 5.6, and 10.0, respectively. Fetal death rates displayed somewhat of a downward relationship with respect to mother's age. Associated rates were generally higher with younger age females. Table 2.23 and Figure 2.25 depicts this relationship.

Table 2.23
Resident Fetal Deaths and Fetal Death Rates
by Age of Mother and Race of Fetus
North Dakota, 1989

Age of Mother	Race of Fetus							
	All Races		White		Native American		Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
Under 15 Years	--	--	--	--	--	--	--	--
15-19 Years	5	6.9	4	7.6	--	--	1	66.7
20-24 Years	17	6.8	13	6.4	4	10.5	--	--
25-29 Years	18	5.1	15	4.8	2	6.8	1	15.6
30-34 Years	11	5.2	11	5.7	--	--	--	--
35-39 Years	3	4.6	3	4.9	--	--	--	--
40-44 Years	--	--	--	--	--	--	--	--
45 Years and Over	--	--	--	--	--	--	--	--
Not Stated	3	--	3	--	--	--	--	--
Total	57	5.9	49	5.9	6	5.6	2	10.0

Figure 2.25
Resident Fetal Death Rates by Age of Mother
North Dakota, 1989



Prenatal Care - Fetal Deaths

Of the 57 fetal deaths recorded in 1989, 13 (22.8 percent) of the records indicated that the mother had less than 5 prenatal visits (Tables 2.24 and 2.25 and Figures 2.26 and 2.27).

Table 2.24
Resident Fetal Deaths and Fetal Death Rates
by Number of Prenatal Visits and Race of Mother
North Dakota, 1989

Number of Prenatal Visits	Race of Mother							
	All Races		White		Native American		Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
None	6	82.2	6	109.1	--	--	--	--
1-4	7	18.1	6	25.5	1	6.9	--	--
5-9	28	8.5	24	8.3	3	8.0	1	28.6
10-14	11	2.2	8	1.7	2	6.7	1	9.6
15-19	1	1.5	1	1.6	--	--	--	--
20+	1	10.1	1	11.4	--	--	--	--
Not Stated	3	--	3	--	--	--	--	--
Total	57	5.9	49	5.7	6	6.6	2	12.2

Table 2.25
Resident Fetal Deaths and Fetal Death Rates
by Trimester Prenatal Care Began and Race of Mother
North Dakota, 1989

Trimester Prenatal Care Began	Race of Mother							
	All Races		White		Native American		Other	
	Number	Rate	Number	Rate	Number	Rate	Number	Rate
None	6	82.2	6	109.1	--	--	--	--
First	40	5.1	33	4.7	5	9.0	2	16.0
Second	5	3.8	4	3.7	1	4.7	--	--
Third	1		1	6.5	--	--	--	--
Not Stated	5	--	5	--	--	--	--	--
Total	57	5.9	49	5.7	6	6.6	2	12.2

Figure 2.26
Resident Fetal Death Rates by
Number of Prenatal Visits
North Dakota, 1989

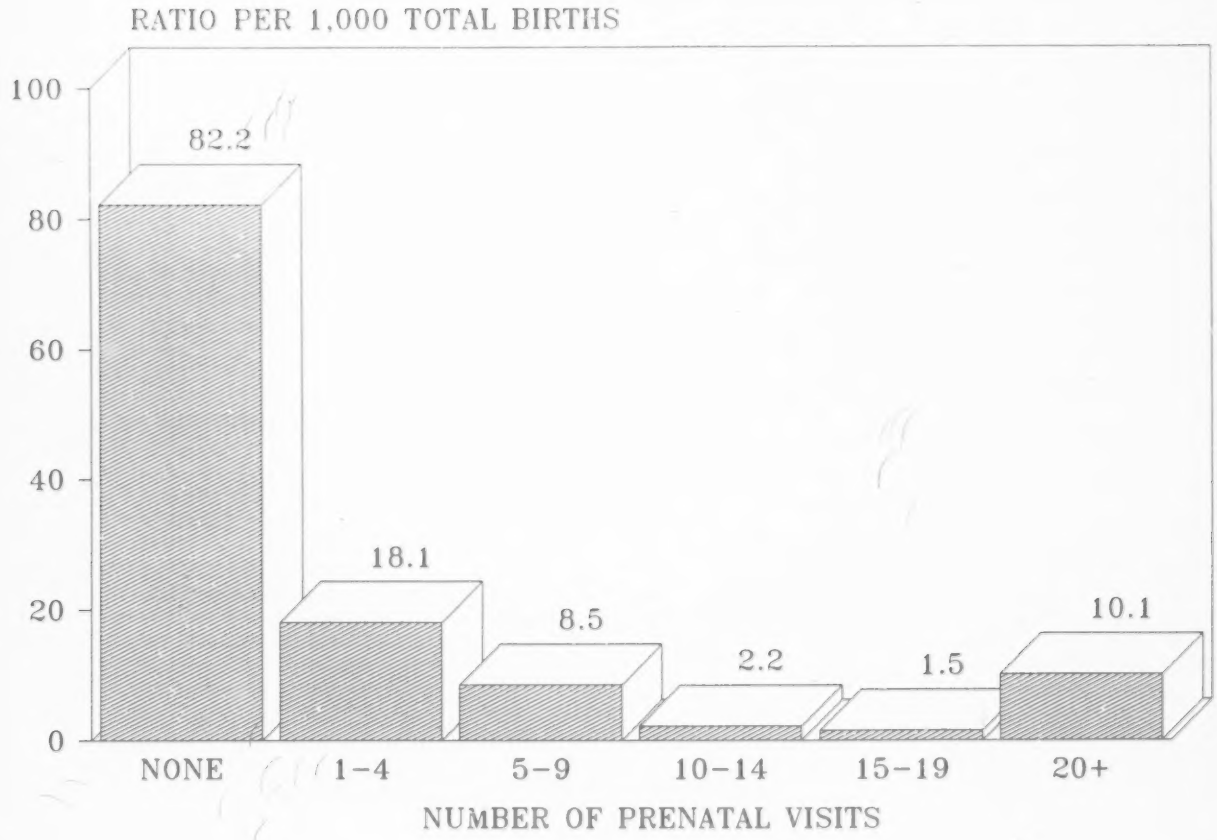
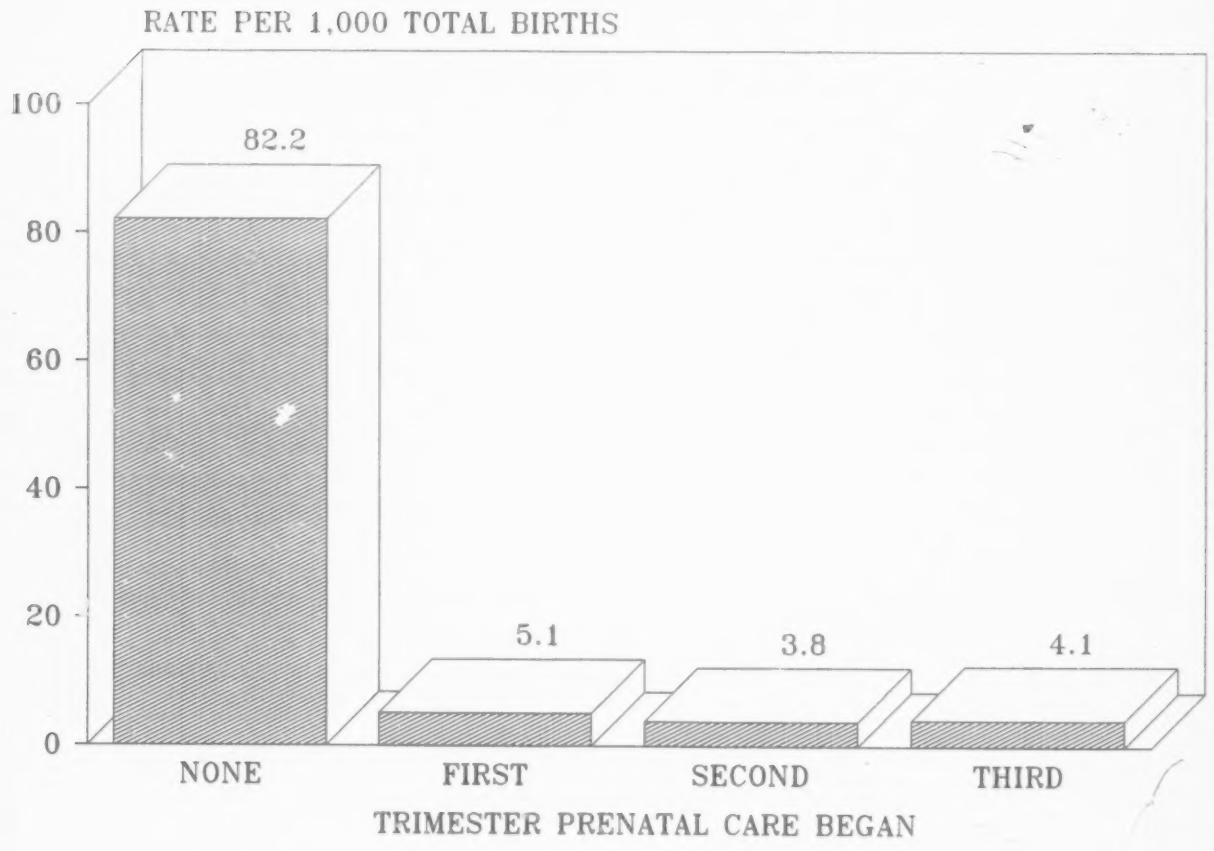


Figure 2.27
Resident Fetal Death Rates
by Trimester Prenatal Care Began
North Dakota, 1989



MARRIAGE and DIVORCE

Marriage and Divorce:
An Overview 1989

Total Marriages	4,847
Marriage Rate	7.3
Total Divorces and Annulments	2,229
Divorce Rate	3.4
Median Duration of Marriage at Divorce	7

Marriage and Divorce

The number of marriages and divorces occurring in North Dakota has generally increased since 1960. The smallest number of marriages during the 1960 to 1989 time period was 4,041 in 1960, while the largest number was 6,204 reported in 1981. The smallest and largest numbers of divorces and annulments were witnessed in 1960 (596) and 1988 (2,365), respectively (Figures 3.1 and 3.2 and Tables 3.1 and 3.2).

Figure 3.1
Marriages
North Dakota Occurrences
1960-1989

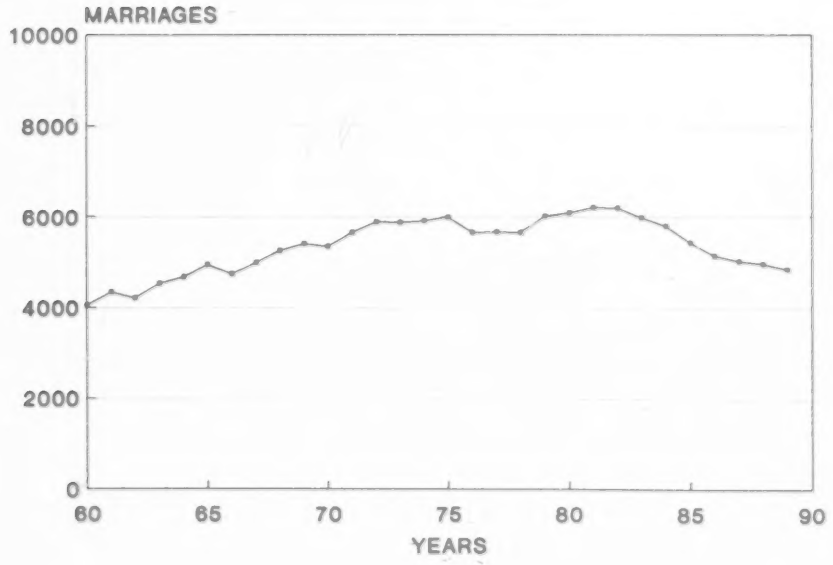


Figure 3.2
Divorces and Annulments
North Dakota Occurrences
1960-1989

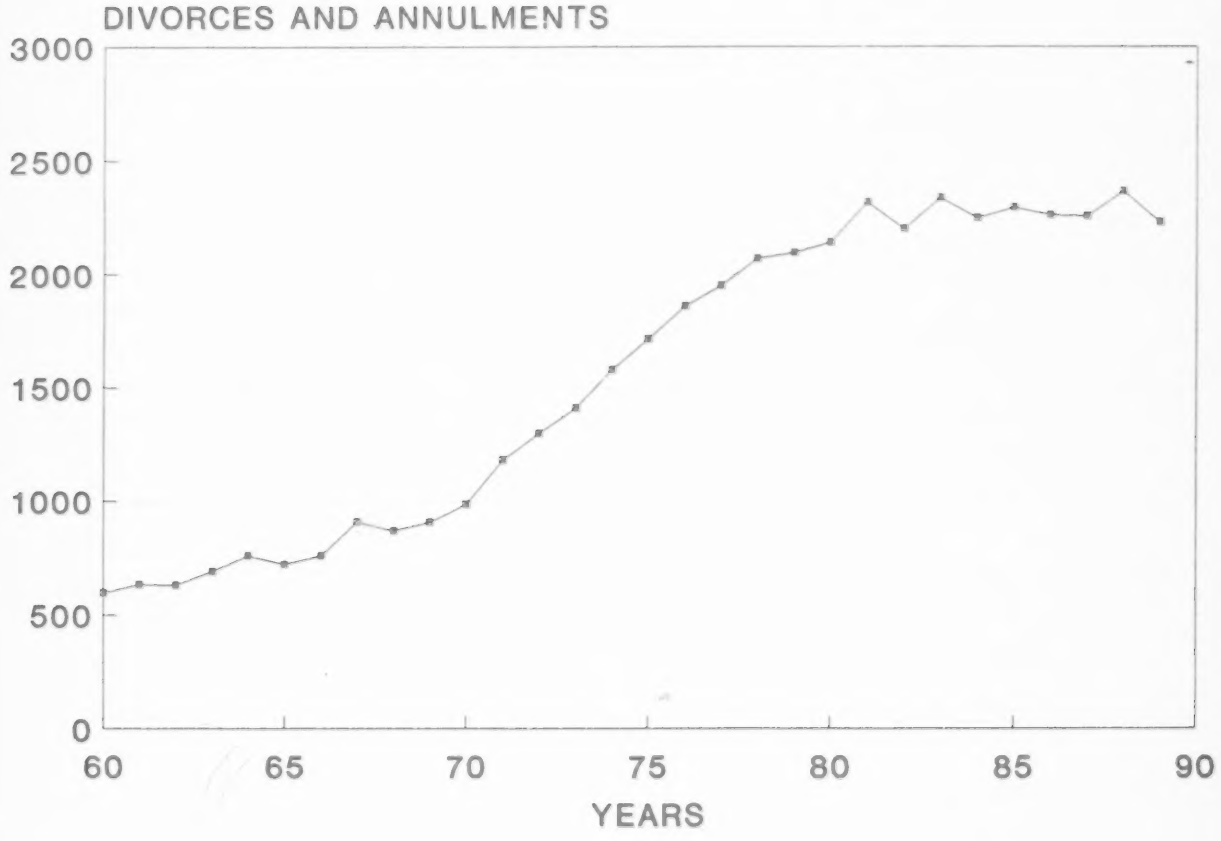


Table 3.1
Marriages and Marriage Rates
North Dakota and United States Occurrences
1960-1989

Year	United States		North Dakota	
	Marriages	Marriage Rate	Marriages	Marriage Rate
1960	1,523,000	8.5	4,041	6.4
1961	1,548,000	8.4	4,335	6.8
1962	1,577,000	8.5	4,212	6.6
1963	1,654,000	8.8	4,531	7.0
1964	1,725,000	9.0	4,675	7.2
1965	1,800,000	9.3	4,939	7.6
1966	1,857,000	9.5	4,740	7.3
1967	1,927,000	9.7	4,990	7.9
1968	2,069,000	10.4	5,251	8.4
1969	2,145,000	10.6	5,399	8.8
1970	2,158,802	10.5	5,340	8.6
1971	2,190,481	10.5	5,648	9.0
1972	2,282,154	10.9	5,886	9.3
1973	2,284,108	10.8	5,874	9.3
1974	2,229,667	10.4	5,905	9.3
1975	2,152,662	10.0	5,993	9.4
1976	2,154,807	9.9	5,649	8.7
1977	2,178,367	9.9	5,668	8.7
1978	2,282,272	10.3	5,651	8.7
1979	2,331,337	10.4	6,022	9.2
1980	2,390,252	10.5	6,093	9.3
1981	2,422,145	10.5	6,204	9.4
1982	2,456,278	10.6	6,195	9.2
1983	2,445,604	10.5	5,976	8.8
1984	2,477,192	10.6	5,796	8.4
1985	2,412,625	10.1	5,424	7.9
1986	2,407,099	10.0	5,148	7.6
1987	2,421,000(1)	10.0	5,028	7.5
1988	2,389,000(1)	9.7	4,966	7.4
1989	2,404,000(1)	9.7	4,847	7.3

(1) U.S. Estimate

Table 3.2
Divorces and Annulments
and Divorce and Annulment Rates
North Dakota and United States
1960-1989

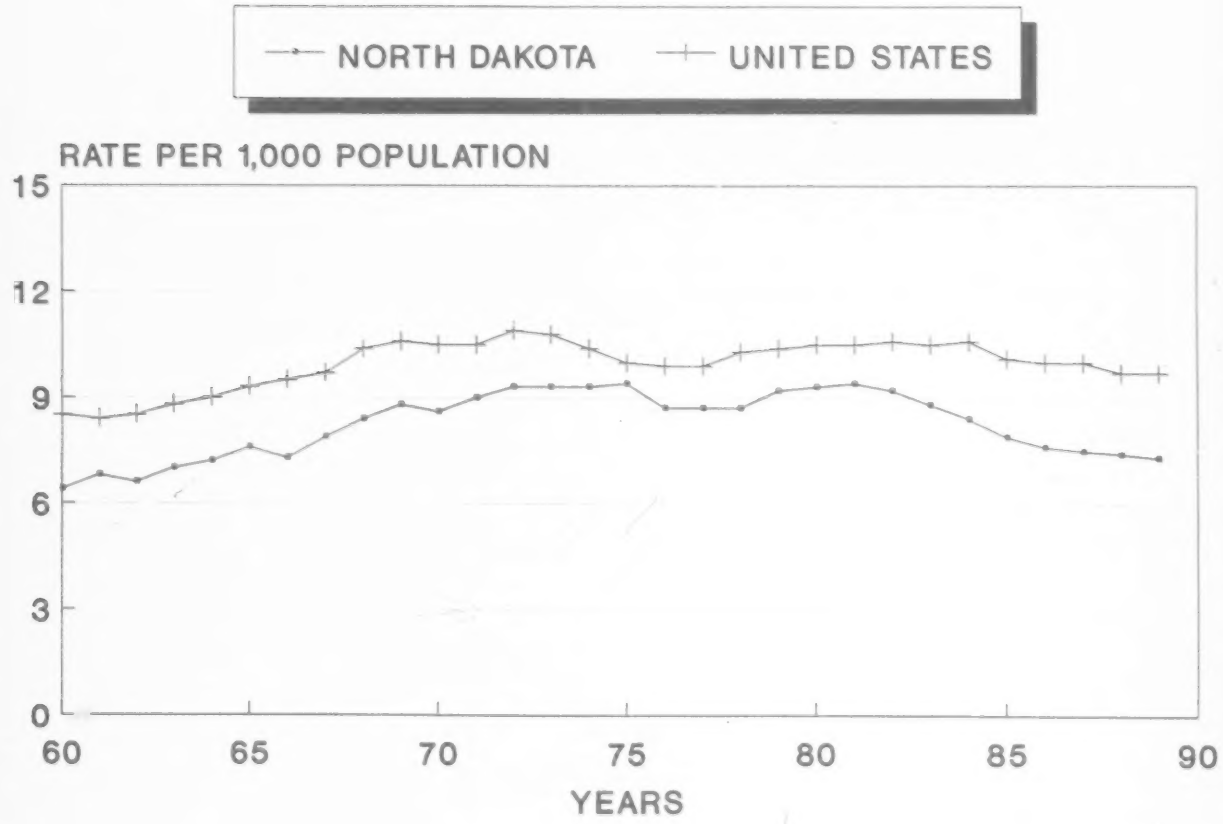
Year	United States		North Dakota	
	Divorces and Annulments	Divorce and Annulment Rate	Divorces and Annulments	Divorce and Annulment Rate
1960	393,000	2.2	596	0.9
1961	414,000	2.3	633	1.0
1962	413,000	2.2	631	1.0
1963	428,000	2.3	689	1.1
1964	450,000	2.4	758	1.2
1965	479,000	2.5	720	1.1
1966	499,000	2.5	759	1.2
1967	523,000	2.6	909	1.4
1968	584,000	2.9	868	1.4
1969	639,000	3.2	908	1.5
1970	708,000	3.5	985	1.6
1971	773,000	3.7	1,181	1.9
1972	845,000	4.0	1,298	2.1
1973	915,000	4.3	1,409	2.2
1974	977,000	4.6	1,578	2.5
1975	1,036,000	4.8	1,714	2.7
1976	1,083,000	5.0	1,861	2.9
1977	1,091,000	5.0	1,952	3.0
1978	1,130,000	5.1	2,071	3.2
1979	1,181,000	5.2	2,095	3.2
1980	1,189,000	5.2	2,142	3.3
1981	1,213,000	5.3	2,319	3.5
1982	1,170,000	5.0	2,202	3.3
1983	1,158,000	4.9	2,336	3.4
1984	1,169,000	5.0	2,249	3.3
1985	1,190,000	5.0	2,295	3.4
1986	1,178,000	4.9	2,261	3.3
1987	1,157,000(1)	4.8	2,256	3.4
1988	1,183,000(1)	4.8	2,365	3.5
1989	1,163,000(1)	4.7	2,229	3.4

(1) U.S. Estimate

Marriage

Since 1960 there have been noticeable shifts in marriage rates nationally and in North Dakota (Figure 3.3). The marriage rates observed for this state have generally followed the pattern of rising and falling rates observed nationally. The number of persons married each year per 1,000 population was higher nationally than in the state for each reporting time period, i.e., 1960-1989. The highest marriage rate reported in North Dakota was 9.4 in 1975 and 1981, while the lowest was 6.4 in 1960.

Figure 3.3
Marriage Rates
North Dakota and United States Occurrences
1960-1989



Age at Marriage

Examination of Table 3.3 indicates that during 1989 females married at younger ages than did males. More than three times the number of females married under the age of 20, compared to their male counterparts, while in the 25 and older age groups males married more frequently than females. The median age for brides in 1989 was 24, while the median for grooms was 26.

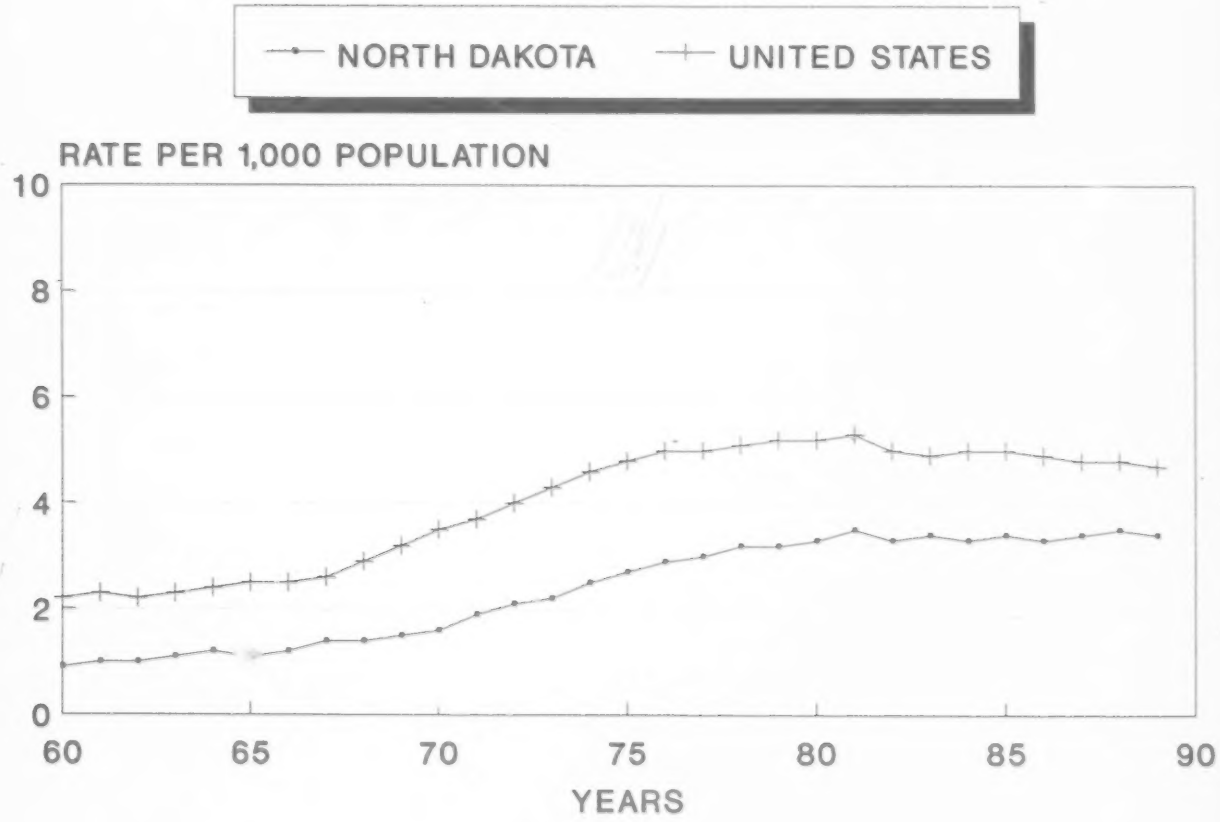
Table 3.3
Marriages by Age and Sex
North Dakota Occurrences
1989

Ages	Number of Marriages	
	Males	Females
Under 20 Years	179	544
20-24 Years	1,713	2,011
25-29 Years	1,405	1,142
30-39 Years	997	773
40-49 Years	321	215
50-59 Years	119	87
60-69 Years	69	49
70 Years and Over	44	26
Total	4,847	4,847
Median Age	26	24

Divorce and Annulment

During the 1960-1989 time period North Dakota and United States divorce and annulment rates followed a similar pattern, one of significant growth (Figure 3.4). Although the pattern has been nearly identical, nationwide rates have been consistently higher than corresponding state divorce and annulment rates. Since 1960 the lowest divorce and annulment rate was reported in 1960 (0.9), while the highest similar state rate was in 1981 and 1988 (3.5).

Figure 3.4
Divorce and Annulment Rates
North Dakota and United States Occurrences
1960-1989



Duration of Marriage at Divorce

The median duration of marriage at divorce was 7 years in 1989. The largest percentage of divorces and annulments occurred in the 1-4 year cohort (Table 3.4).

Minor Children of Divorced Couples

The number of children under 18 affected by divorces in 1989 was 2,336 (Table 3.5), while the average number of children per divorce was 1.1.

Table 3.4
Divorces and Annulments by Duration of Marriage
North Dakota Occurrences
1989

Duration in Years	Frequency	Percent
Under 1 Year	71	3.2
1-4 Years	718	32.2
5-9 Years	628	28.2
10-14 Years	313	14.0
15-19 Years	211	9.5
20-24 Years	150	6.7
25-29 Years	63	2.8
30-34 Years	41	1.8
35-39 Years	21	0.9
40-49 Years	12	0.5
50 Years and Over	1	0.0
Total	2,229	100.0
Median Duration	7 Years	

Table 3.5
Divorces by Children Affected
North Dakota Occurrences
1989

Children Affected	Frequency	Percent
0	911	41.0
1	544	24.5
2	565	25.4
3	157	7.1
4	36	1.6
5 or More	9	0.4
Total Divorces	2,222	100.0
Total Children Affected	2,336	N/A

INDUCED TERMINATIONS

Total Induced Terminations (Occurrences)	1,761
Total Induced Terminations (Residents)	1,105

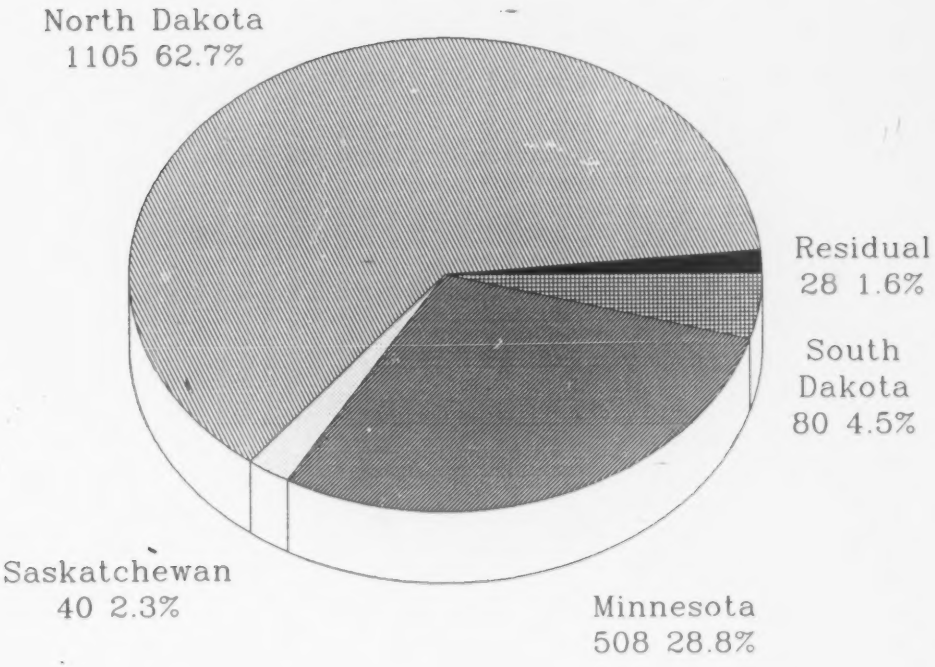
Induced Terminations

In 1989, 1,761 induced terminations were reported in North Dakota. Approximately 63 percent of these terminations were state residents (Table 4.1 and Figure 4.1). Of the nonresident induced terminations occurring in the state, 77 percent were residents of Minnesota.

Table 4.1
Induced Termination Occurrences
by State of Residence
North Dakota, 1989

Geographic Area	Number	Percent
Indiana	1	0.1
Manitoba	19	1.1
Minnesota	508	28.8
Missouri	1	0.1
Montana	2	0.1
North Dakota	1,105	62.7
Saskatchewan	40	2.3
South Dakota	80	4.5
Wisconsin	3	0.2
Wyoming	2	0.1
Total	1,761	100.0

Figure 4.1
Induced Termination Occurrences
by State of Residence
North Dakota, 1989



Age and Race of Female

In 1989, 35.7 percent of all resident induced terminations were to women ages 20-24, while 26.3 percent were women ages 15-19 (Table 4.2).

Other Social Characteristics

Tables 4.3 and 4.4 portray age of woman by marital status and education of woman, respectively. Approximately 84 percent of all North Dakota residents having induced terminations were not married at the time of the termination. Regarding education, 53.1 percent of the women were educated at the level grades 10-12, while 40.3 percent were educated within the level 1-4 years of college.

Table 4.2
Resident Induced Terminations
by Age and Race of Female
North Dakota, 1989

Age of Female	All Races		White		Native American		Other	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Under 15 Years	7	0.6	7	0.7	--	--	--	--
15-19 Years	291	26.3	263	25.8	22	41.5	6	19.4
20-24 Years	394	35.7	368	36.0	14	26.4	12	38.7
25-29 Years	200	18.1	183	17.9	8	15.1	9	29.0
30-34 Years	141	12.8	134	13.1	6	11.3	1	3.2
35-39 Years	52	4.7	46	4.5	3	5.7	3	9.7
40-44 Years	19	1.7	19	1.9	--	--	--	--
45 Years and Over	1	0.1	1	0.1	--	--	--	--
Total	1,105	100.0	1,021	100.0	53	100.0	31	100.0

Table 4.3
Resident Induced Terminations
by Age and Marital Status of Female
North Dakota, 1989

Age of Female	Total	Married	Not Married	Not Stated
Under 15 Years	7	--	7	--
15-19 Years	291	7	284	--
20-24 Years	394	42	351	1
25-29 Years	200	46	153	1
30-34 Years	141	50	90	1
35-39 Years	52	18	34	--
40-44 Years	19	10	9	--
45 Years and Over	1	--	1	--
Total	1,105	173	929	3

Table 4.4
Resident Induced Terminations by
Age and Education of Female
North Dakota, 1989

Age of Female	Total	Grades 1-9	Grades 10-12	1-4 Years of College	5+ Years of College	Not Stated
Under 15 Years	7	3	4	--	--	--
15-19 Years	291	11	224	52	--	4
20-24 Years	394	1	169	203	15	6
25-29 Years	200	2	88	100	8	2
30-34 Years	141	1	70	56	9	5
35-39 Years	52	1	21	27	3	--
40-44 Years	19	--	10	7	--	2
45 Years and Over	1	--	1	--	--	--
Total	1,105	19	587	445	35	19

Other General Characteristics

Of the induced terminations reported in North Dakota, suction curettage was the primary procedure utilized in almost all reported pregnancy terminations (Table 4.5).

Complications of termination were reported in 11 (1.0 percent) of the state's 1,105 resident induced terminations (Table 4.6).

Table 4.7 depicts resident induced terminations by age of woman and gestation period. The median gestation period for induced terminations was approximately 8 weeks.

Table 4.5
Resident Induced Terminations
by Age of Female and Primary Procedure
North Dakota, 1989

Age of Female	Total	Suction Curettage	Other
Under 15 Years	7	7	--
15-19 Years	291	290	1
20-24 Years	394	394	--
25-29 Years	200	200	--
30-34 Years	141	138	3
35-39 Years	52	52	--
40-44 Years	19	19	--
45 Years and Over	1	1	--
Total	1,105	1,101	4

Table 4.6
Resident Induced Terminations by
Age of Female and Complications of Termination
North Dakota, 1989

Age of Female	Total	None	Hemorrhage	Infection	Retained Products	Other
Under 15 Years	7	7	--	--	--	--
15-19 Years	291	289	--	2	--	--
20-24 Years	394	392	--	--	1	1
25-29 Years	200	197	--	--	3	--
30-34 Years	141	138	1	1	1	--
35-39 Years	52	51	--	1	--	--
40-44 Years	19	19	--	--	--	--
45 Years and Over	1	1	--	--	--	--
Total	1,105	1,094	1	4	5	1

Table 4.7
Resident Induced Terminations by
Age of Female and Gestation Period
North Dakota, 1989

Age of Female	Gestation					
	Total	1-4 Weeks	5-8 Weeks	9-12 Weeks	13 Weeks and Over	Not Stated
Under 15 Years	7	--	4	3	--	--
15-19 Years	291	--	157	116	18	--
20-24 Years	394	--	232	137	24	1
25-29 Years	200	--	115	71	14	--
30-34 Years	141	--	96	35	10	--
35-39 Years	52	--	35	16	1	--
40-44 Years	19	--	12	7	--	--
45 Years and Over	1	--	--	1	--	--
Total	1,105	--	651	386	67	1

APPENDIX

Table 5.1
Live Births and Deaths, North Dakota Residents;
Marriages, Divorces and Annulments,
North Dakota Occurrences, by County
1989

County	Births	Deaths	Marriages	Divorces and Annulments
Adams	39	30	18	1
Barnes	159	133	101	46
Benson	177	55	48	1
Billings	16	3	6	--
Bottineau	81	85	66	23
Bowman	49	46	32	4
Burke	29	38	16	5
Burleigh	871	395	503	246
Cass	1,529	625	729	380
Cavalier	91	74	38	11
Dickey	57	77	45	15
Divide	36	44	23	11
Dunn	68	31	14	11
Eddy	27	40	26	3
Emmons	67	61	47	5
Foster	44	61	24	9
Golden Valley	24	24	14	3
Grand Forks	1,275	391	624	376
Grant	41	47	21	1
Griggs	36	41	16	3
Hettinger	42	34	34	1
Kidder	34	29	13	6
LaMoure	53	63	50	7
Logan	38	27	13	2
McHenry	78	81	44	5
McIntosh	37	68	24	6
McKenzie	113	38	29	14
McLean	138	122	64	19
Mercer	138	62	43	33
Morton	316	234	197	72
Mountrail	89	84	55	10
Nelson	39	83	34	9
Oliver	25	14	7	1
Pembina	119	143	64	28
Pierce	58	63	38	10
Ramsey	178	147	109	47
Ransom	60	80	49	24
Renville	30	33	23	9
Richland	249	154	98	47
Rolette	298	101	39	8
Sargent	58	49	36	6
Sheridan	21	18	14	2
Sioux	126	35	24	--
Slope	8	7	3	--
Stark	357	167	181	77
Steele	25	27	14	2
Stutsman	269	198	153	74
Towner	40	48	18	3
Traill	79	119	74	21
Walsh	197	173	103	45
Ward	1,152	423	581	358
Wells	71	74	29	17
Williams	315	195	179	112
Total	9,566	5,494	4,847	2,229

Table 5.2
Resident Deaths by Age, Gender, and Selected Causes
North Dakota, 1989

Primary Cause of Death	Age at Death																			
	Under 1		1-4		5-14		15-24		25-34		35-44		45-54		55-64		65+		All Ages	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Intestinal Infections	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1	1	1
Tuberculosis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	1	2	1
Meningococcal Infection	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	1
Septicemia	--	--	--	1	--	--	--	--	1	--	1	--	1	2	1	2	8	9	12	14
Viral Hepatitis	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	1	--	1	1
Other Infectious and Parasitic Diseases	1	1	--	--	--	--	--	1	2	--	2	--	4	--	2	1	7	1	18	4
Malignant Neoplasms	--	--	1	1	2	1	--	1	8	3	13	26	40	37	114	96	566	447	744	612
Benign Neoplasms	--	--	1	--	--	--	--	--	--	--	1	--	--	--	--	--	5	11	7	11
Diabetes Mellitus	--	--	--	--	--	--	--	--	1	1	4	2	7	5	6	7	50	61	68	76
Nutritional Deficiencies	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	8	4	8
Anemias	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3	--	3
Meningitis	--	--	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1
Diseases of the Heart	2	1	--	--	1	1	1	--	9	2	16	4	46	8	120	39	820	798	1015	853
Hypertension With or Without Renal Disease	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8	14	8	14
Cerebrovascular Diseases	--	--	--	--	--	--	--	1	--	1	1	1	4	4	11	6	164	212	180	225
Atherosclerosis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	46	47	47	47
Other Arterial Diseases	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	1	46	26	48	27
Acute Bronchitis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	1	1	1
Pneumonia and Influenza	--	--	--	--	--	--	--	--	--	1	2	1	--	--	3	1	92	93	97	96
Chronic Obstructive Pulmonary Diseases	--	--	--	--	--	--	1	--	--	--	--	--	7	1	10	7	132	49	150	57
Ulcer	--	--	--	--	--	--	--	--	--	--	--	--	--	1	1	1	11	7	12	9
Appendicitis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	1
Hernia	--	--	--	--	--	--	--	--	--	--	--	--	1	--	--	--	6	14	7	14
Cirrhosis	--	--	--	--	--	--	--	--	1	--	6	1	4	6	13	3	11	18	35	28
Cholelithiasis	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7	--	7	--
Nephritis and Nephrosis	1	--	--	--	--	--	--	--	--	--	--	1	1	--	--	--	26	28	28	29
Infections of Kidney	--	1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1	--	2
Hyperplasia of Prostate	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2	--	?	--
Complications of Pregnancy	--	--	--	--	--	--	--	--	--	1	--	--	--	--	--	--	--	--	--	1
Congenital Anomalies	14	15	2	3	1	2	2	1	--	1	1	--	1	--	--	--	2	1	23	23
Perinatal Conditions	11	13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	11	13
Ill-Defined Conditions	7	3	--	--	--	--	1	--	2	--	2	1	--	--	--	2	17	26	29	32
All Other Diseases	2	3	2	--	6	1	3	1	3	3	6	3	10	9	21	12	155	193	208	225
Traffic Accidents	--	--	1	1	1	2	25	4	8	5	7	3	9	3	9	3	10	8	70	29
All Other Accidents	1	1	3	1	5	2	3	--	8	3	13	1	7	3	6	1	36	20	82	32
Suicide	--	--	--	--	1	--	14	2	10	3	5	--	4	1	14	--	17	1	65	7
Homicide/Legal Intervention	--	--	--	1	--	1	2	--	--	1	1	1	1	--	--	--	--	1	4	5
All Other External Causes	--	--	--	--	--	--	--	--	1	--	1	2	--	--	1	--	--	--	3	2
All Causes of Death	39	38	10	9	17	10	52	11	54	25	82	47	147	81	336	183	2252	2101	2989	2505

Table 5.3
Resident Selected Causes of Death, by County
North Dakota Residents, 1989

County	All Causes	Residual	Malignant Neoplasms	Diabetes	Diseases of the Heart	Cerebro-vascular Disease	Athero-sclerosis	Other Diseases of Arteries	Influenza/ Pneumonia	COPD	Accidental	Suicide
Adams	30	1	4	--	15	2	--	2	2	3	1	--
Barnes	133	12	42	6	41	11	--	3	6	4	6	2
Benson	55	18	9	2	17	3	--	1	--	--	3	2
Billings	3	--	1	--	2	--	--	--	--	--	--	--
Bottineau	85	10	18	1	39	5	--	1	5	2	2	2
Bowman	46	11	13	1	12	--	2	--	1	3	2	1
Burke	38	3	15	1	14	1	1	--	1	1	1	--
Burleigh	395	65	106	12	115	30	9	8	9	24	11	6
Cass	625	126	151	7	222	41	8	2	20	17	22	9
Cavalier	74	7	19	1	26	4	1	1	6	5	4	--
Dickey	77	7	15	1	39	8	--	--	1	4	2	--
Divide	44	5	10	2	14	4	--	1	6	1	1	--
Dunn	31	3	5	3	12	2	--	1	1	1	2	1
Eddy	40	5	12	1	12	2	1	--	2	4	1	--
Emmons	61	9	18	5	15	2	1	2	2	6	1	--
Foster	61	5	14	--	12	8	14	--	1	3	4	--
Golden Valley	24	--	7	1	8	1	--	1	2	3	--	1
Grand Forks	391	70	80	14	147	22	6	9	6	13	18	6
Grant	47	9	14	2	13	5	--	1	1	1	--	1
Griggs	41	4	12	1	14	3	--	--	4	1	2	--
Hettinger	34	4	9	--	14	4	--	--	1	--	2	--
Kidder	29	5	8	2	8	--	1	2	1	--	2	--
LaMoure	63	7	18	3	23	6	1	--	2	1	2	--
Logan	27	8	6	1	6	4	1	--	--	--	1	--
McHenry	81	14	20	1	38	3	--	1	1	2	--	1
McIntosh	68	8	14	4	28	5	2	4	1	1	--	1
McKenzie	38	6	17	1	6	1	--	1	--	1	5	--
McLean	122	25	39	3	40	1	1	1	2	4	6	--
Mercer	62	9	16	2	20	4	--	1	--	5	4	1
Morton	234	26	48	5	79	26	9	4	13	8	11	5
Mountrail	84	16	13	3	29	6	1	--	2	3	10	1
Nelson	83	10	16	--	37	13	--	--	1	5	--	1
Oliver	14	1	7	1	2	1	--	--	--	1	1	--
Pembina	143	22	47	4	36	13	--	--	7	6	7	1
Pierce	63	8	21	3	22	2	--	2	2	3	--	--
Ramsey	147	24	37	2	54	13	--	3	3	4	4	3
Ransom	80	7	18	1	31	7	1	1	4	5	4	1
Renville	33	3	11	1	11	2	--	--	1	2	2	--
Richland	154	25	35	2	49	13	9	1	7	5	5	3
Rolette	101	13	18	7	40	8	1	1	2	3	6	2
Sargent	49	4	9	4	15	3	4	--	2	4	3	1
Sheridan	18	2	3	--	9	1	--	--	--	1	--	2
Sioux	35	8	9	2	4	1	1	1	1	1	6	1
Slope	7	--	3	--	2	2	--	--	--	--	--	--
Stark	167	32	40	3	55	12	4	2	9	5	1	4
Steele	27	4	4	1	9	5	--	--	2	1	1	--
Stutsman	198	40	46	2	70	24	4	1	3	5	2	1
Towner	48	4	11	--	17	4	--	3	5	1	3	--
Traill	119	17	27	--	40	12	1	2	14	2	3	1
Walsh	173	28	42	7	60	11	3	2	9	5	5	1
Ward	423	76	114	10	141	23	2	7	11	16	20	3
Wells	74	12	16	1	21	11	1	1	5	2	1	3
Williams	195	29	49	7	63	10	4	1	6	9	13	4
Total	5494	867	1356	144	1868	405	94	75	193	207	213	72